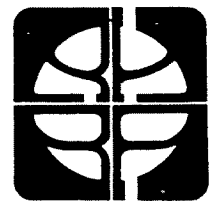


Master Plan Penitencia Creek Park

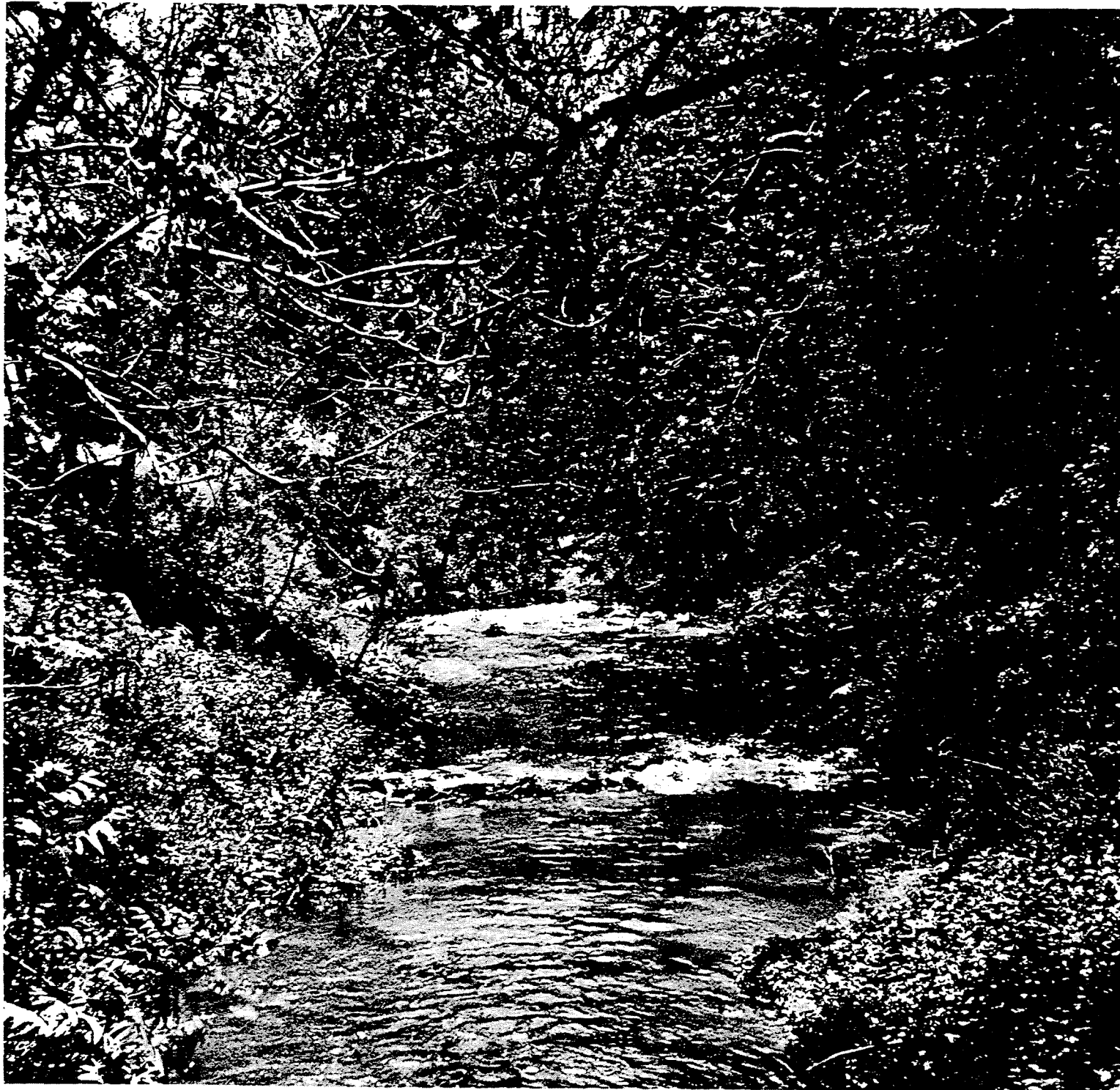
Penitencia Creek Park

A Master Plan
Prepared for the County of Santa Clara



Royston Hanamoto Beck & Abey
Landscape Architects & Planners
225 Miller Avenue
Mill Valley, California 94941

Acknowledgments



Santa Clara County Parks
and Recreation Commission

Santa Clara County Parks
and Recreation Department

Penitencia Creek Park
Citizens Advisory Committee

Santa Clara Valley
Water District

City of San Jose Parks
and Recreation Department

Berryessa Union School District

East Side Union High
School District

Royston, Hanamoto, Beck & Abey
Landscape Architects & Planners

Asa Hanamoto, Principal-in-Charge
Patricia A. Carlisle, Principal
Hans Jongejan, Project Coordinator

July 18, 1977

Board of Supervisors
County of Santa Clara
70 West Hedding Street
San Jose, California 95110

RE: County of Santa Clara
Penitencia Creek Park Master Plan

Dear Board Members:

In accordance with our Agreement with the County to conduct a study and prepare a Master Plan for Penitencia Creek Park, we are pleased to submit this report for the four mile section of Penitencia Creek from Alum Rock Park on the east to its confluence with Coyote Creek in the west.

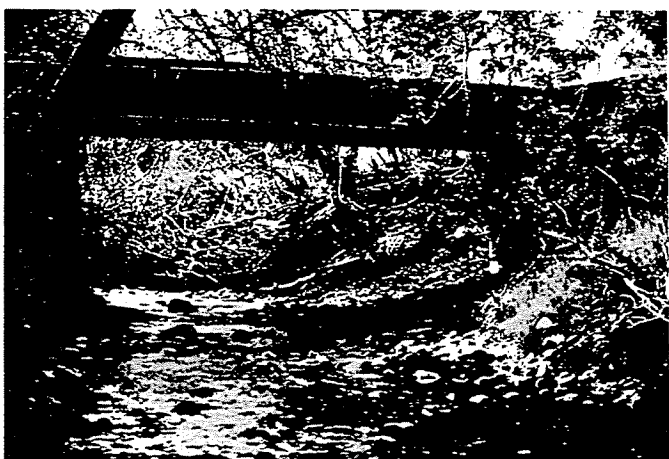
The Master Plan serves as a guide toward future implementation of Penitencia Creek Park development and fulfills the County's conservation goal of a creekside environment as an invaluable community greenbelt and open space trail system linking Alum Rock Park to Coyote Creek. This contiguous connecting link provides considerable recreation opportunities with other publicly-owned areas for the use and enjoyment of the citizens of Santa Clara County.

The Master Plan was developed in cooperation with the Penitencia Creek Park Citizens Advisory Committee, Penitencia Creek Policy Board, the County of Santa Clara Parks and Recreation Commission and Department; Santa Clara Valley Water District, City of San Jose Parks and Recreation Department, Berryessa and Eastside Union School Districts; and many other interested public officials. The continual involvement of the citizens and various public agencies was an integral and vital part of the planning process. We wish to express our appreciation to all of them for their advice, support and contributions to the plan.

Sincerely,

ROYSTON, HANAMOTO, BECK & ABEY


Asa Hanamoto, Principal



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Introduction

The creation of Penitencia Creek Park is a response by the Santa Clara County Board of Supervisors and the Santa Clara County Parks and Recreation Department to create a regional park within the Berryessa and Alum Rock Planning Areas. In 1974 these areas within the County were found to be one of the most deficient areas in terms of usable parks for its citizens.

In 1975 the Board of Supervisors allocated 3.5 million dollars from a Trust Fund of a 1972 Charter Amendment including land acquisition for Penitencia Creek.

In the spring of 1976, the firm of Royston, Hanamoto, Beck & Abey was retained by the County Board of Supervisors as design consultants to conduct a study and prepare a Master Plan for the proposed Penitencia Creek Park.

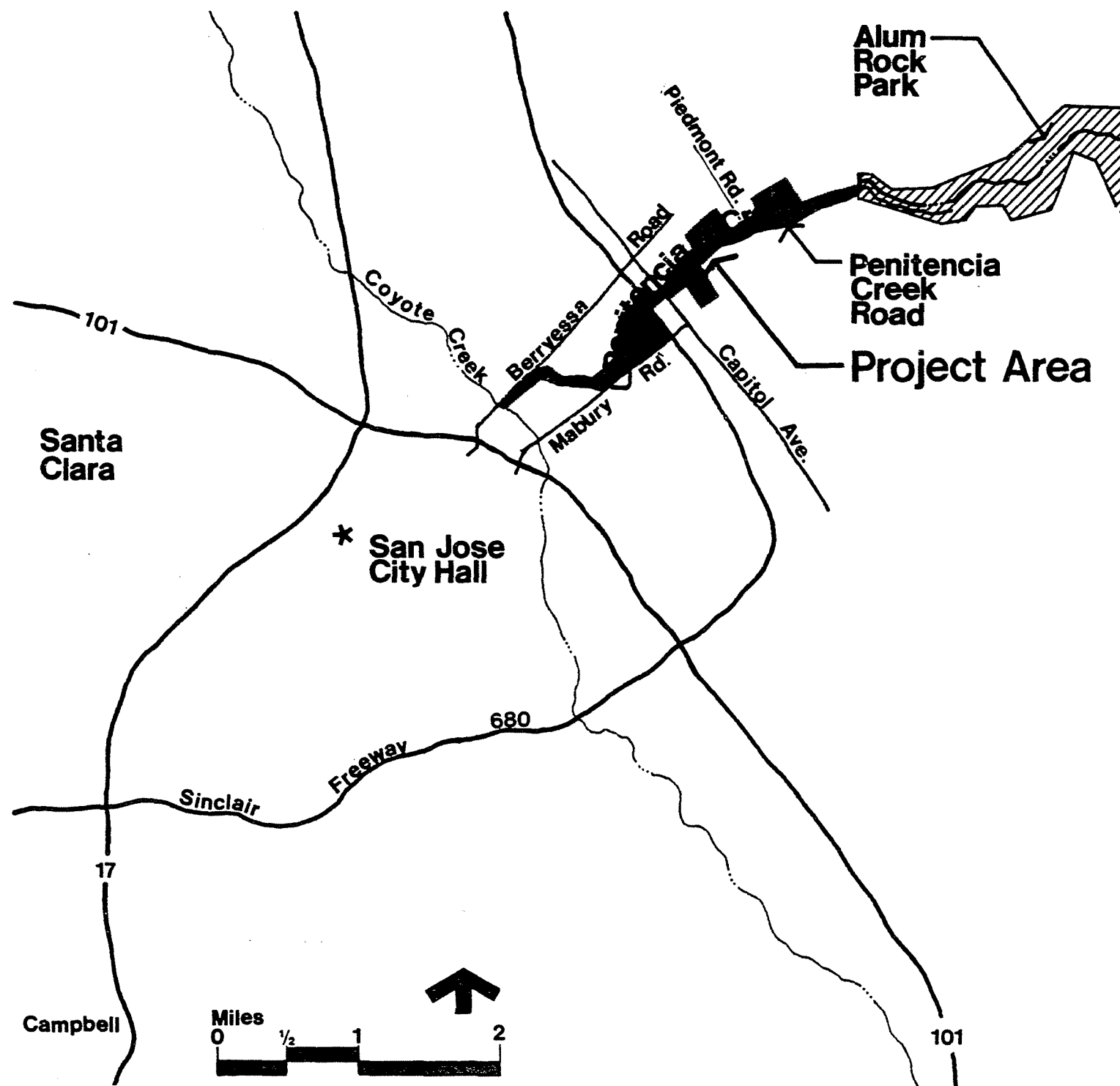
As part of the planning process, citizen meetings set goals and objectives for the park, provided input during the planning period; and reviewed the planning products during the course of the study. A Citizens Advisory Committee was established to work with the Park Consultant to develop the plan.

The study was developed under the guidance of the County Parks and Recreation Department and with the cooperative input and support of the Santa Clara Valley Water District (S.C.V.W.D.), East Side Union High School District, Berryessa Union School District; and the City of San Jose.

The following Report and Master Plan culminates a developmental process involving public agencies and interested citizens of Santa Clara County. Its completion is a tribute to their consistent concern and interest in retaining Penitencia Creek in its natural environment and for creating a linear stream-side park.



Regional and Local Setting



Penitencia Creek is located in the north-easterly section of Santa Clara County. The major watershed area, approximately 22 square miles, is within the unincorporated areas of the County. Two square miles of the watershed is in the City of San Jose. The Creek flows westerly from an elevation of 2,600 feet in the foothills of the Diablo Range, east of Alum Rock Park to an elevation of 52 feet at its confluence with Coyote Creek near Berryessa Road.

Penitencia Creek, one of the last in the County to flow within its natural alignment, cuts a natural, picturesque profile from the foothills at Alum Rock Park entrance, westerly through residential and agricultural areas of the valley floor. Typically, a narrow band of water, flanked by steep banks and lined with Sycamores, Alders, Eucalyptus, Oaks, Willows; various native shrubs and grasses, the Creek provides a potential 4.2 mile linear park link to the various publicly-owned lands.

Existing public lands which either border on the Creek or lie within its immediate influence area include seven school sites of some 225 acres, 63 acres of Santa Clara Valley Water District lands, and 770 acres of land owned by the City of San Jose.

The potential created by the natural setting of Penitencia Creek, together with the existing public lands, forms the framework for Penitencia Creek Park project area.

Penitencia Creek has a rich and varied history. As an extension of Alum Rock Park, its history dates to a Spanish Land Grant given by King Charles III of Spain to the Pueblo of San Jose de Guadalupe in 1778, and has influenced three cultures.

The Ohlone Indians inhabited the area and used the Creek and its environs for hunting rabbits. They named the canyon and the Creek "Shistuk", meaning a place of rabbits. Later, the Spanish name was "Aquaje" (Awah-he), a watering place for stock.

The Padres and their followers of the San Jose and Santa Clara Missions made penitential pilgrimages to an oak grove that bordered this stream. The sites were selected by the Padres for their tranquility. They prayed and did their penance along the Creek, hence the name Penitencia Creek.

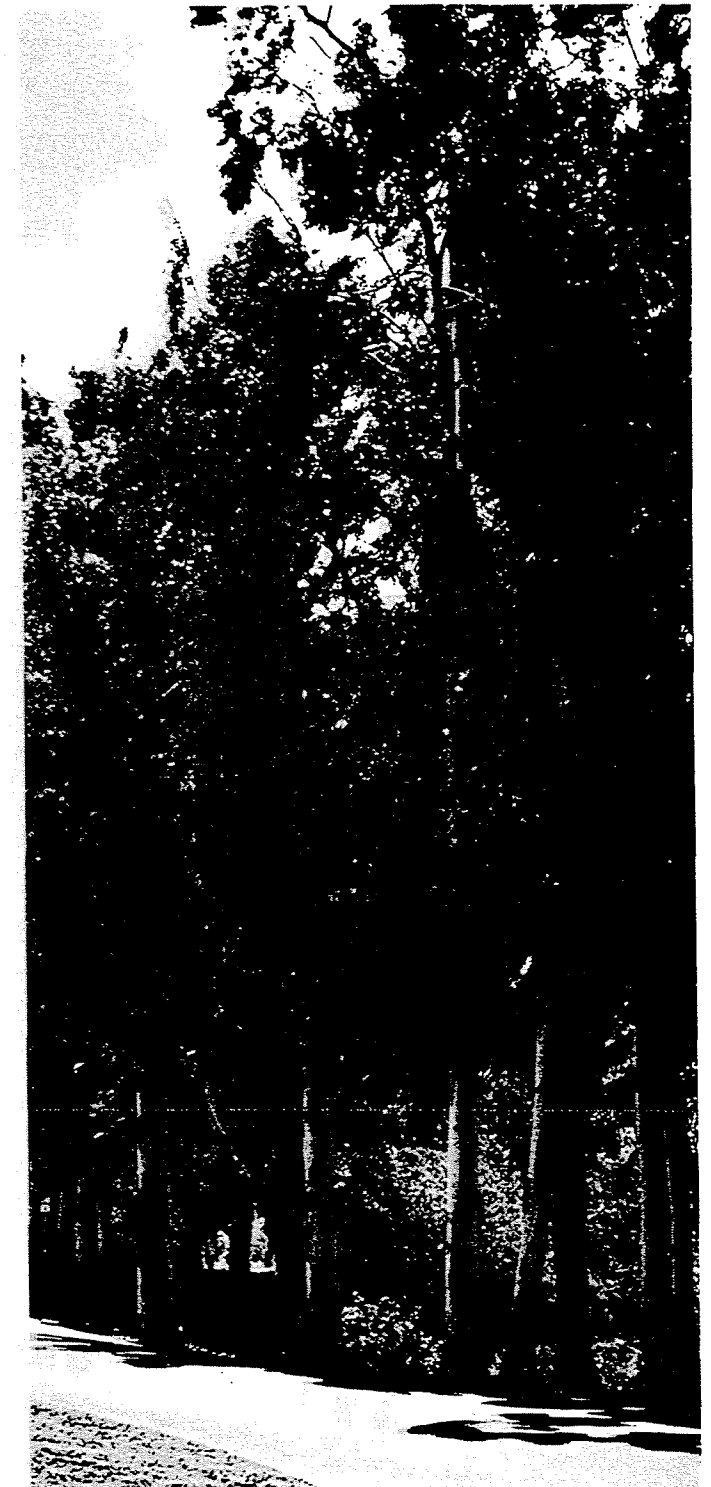
As early as 1871, in a volume published by Frederic Hall, the significance to the region and its natural beauty was put to print.

In 1906, the Outdoor Art League, a women's group, recognized the natural beauty of the Creek and began steps for its preservation. They planted Eucalyptus trees along the Creek where local farmers had removed the native trees. These trees stand today at Penitencia Creek Road and Noble Avenue.

In 1918, Supervisor Henry Ayer stated: "The County should buy the land along Penitencia Creek now. I consider it one

of the showplaces of the County. Let everyone add their support to the cause of saving Penitencia Creek from ultimate destruction." Due to the impact of World War I, a fire at the Courthouse in 1931, and Mr. Ayer's death in 1935, his dream was never realized.

Creation of a park has been consistently proposed by various agencies throughout the County since 1935. The County Board of Supervisors in 1975 allocated 3.5 million dollars from a 1972 Charter Amendment for park land acquisition for the purchase of lands and hired the design consultant to develop the Master Plan for the park.



Goals & Objectives

The three major goals for the park set forth by the local citizens and their Advisory Committee:

- o To benefit the daily life-style of the users
- o Immediate accessibility to a regional park
- o To bring together the involved public agencies in a single purpose

The objectives for creating Penitencia Creek park:

- o Citizen involvement and participation
- o Preservation of the existing natural Creek environment
- o Public access to the Creek
- o To create a linear park system inter-connecting existing public facilities and lands
- o To create a secondary trail system connecting adjacent public facilities
- o Rehabilitation of disturbed areas
- o Consideration of adjoining land-owners

These goals and objectives, together with the following "ideal pathway criteria" became the framework for which a linear

trail system, with nodes of larger open space, were developed as the basis for the design of Penitencia Creek Park:

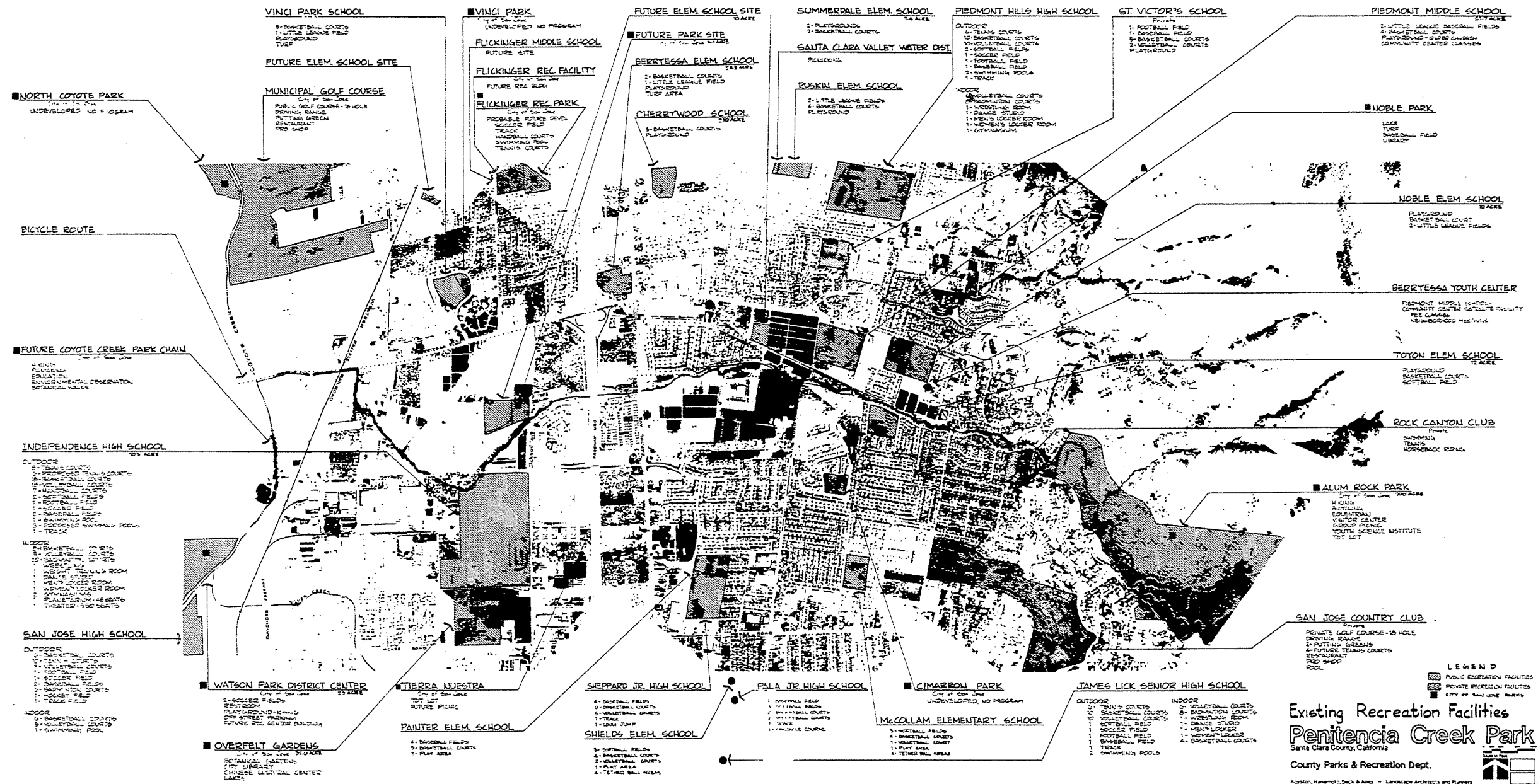
- o To locate the pathways close to the Creek to take advantage of the creekside amenities, trees, shade, water, views, etc.
- o To create a physical separation from automobile traffic by grade separation at roadway intersections and locate trails on the opposite side of the Creek where a road is adjacent to the Creek
- o Provide convenient and safe access to adjacent publicly-owned lands and facilities

Inventory

An inventory of existing and proposed public and private recreation facilities was conducted with the aid of local public agencies for an area of approximately one mile north and one mile south of the Creek, including Alum Rock Park.

The limits of the inventory were established to meet reasonable accessibility requirements for the residents along Penitencia Creek.

The inventory (see Appendix) indicates the number of specific recreation facilities in the area and are shown on this Existing Recreation Facilities Map.

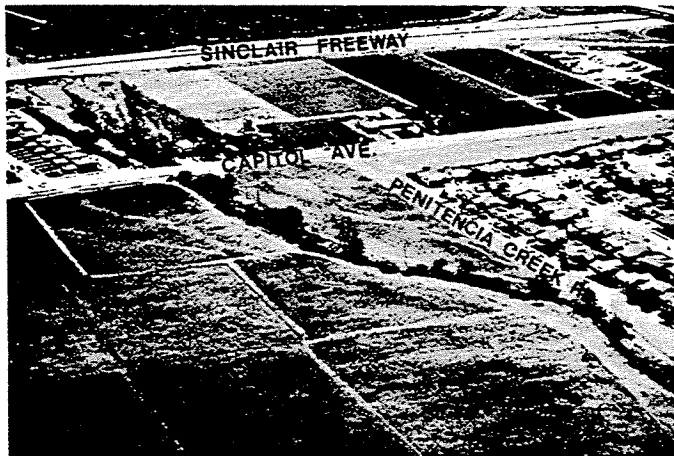


Existing Conditions



The four-mile section of Penitencia Creek is influenced by five major existing elements or adjacent activities:

The first major element, City of San Jose's Alum Rock Park, lies at the most easterly end of the design area, within Alum Rock Canyon in the foothills of the Diablo Range. This 700 acres of rugged natural park provides many leisure outdoor activities, including hiking, horseback riding, bicycling, family and group picnicking; and hosts a rich variety of plant materials and wildlife.



The second major element is Penitencia Creek Road, a heavily traveled arterial parallel to the Creek between Alum Rock Park and Capitol Avenue. Horizontal distances from the existing edge of this road to the edge of the Creek vary from a minimum of four feet to a maximum of 300 feet. The major part of this stretch of Creek, approximately two miles, lies within 10 to 20 feet horizontally, and four to ten feet vertically of the roadway. The roadway creates a physical and psychological barrier dominating the south side of the Creek from Alum Rock Park to Summerdale Avenue and the north side of the Creek to Capitol Avenue.



Capitol Avenue, the third major element, crosses the Creek at approximately the mid point, and is a major arterial which carries approximately 23,000 vehicles per day bisecting the park and creating a major barrier to movement by pedestrians, bicycles or equestrians. The Capitol Avenue bridge was not built to

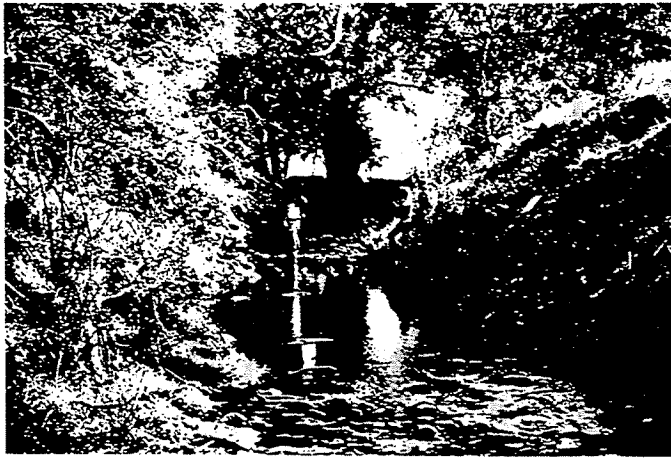
provide pedestrian movement underneath it, therefore requiring an on grade or overpass crossing.

The fourth major environmental influence is Sinclair Freeway. Its location, approximately 1,000 feet downstream of Capitol Avenue, creates a strong visual barrier as well as psychological division between the eastern and western portions of the Creek. Due to the eight foot clearance, movement under the bridge by bicyclists and equestrians is drastically impeded.

Berryessa Road, north of the flea market, is the fifth major influence. This arterial runs parallel to the Creek with a horizontal separation from two to 30 feet, and a vertical separation of approximately 10 feet. The automobile noise, the expanse of asphalt, and the guardrails required where the Creek and roadway have only two to three feet separation, is the most difficult environment for an intimate creekside experience.

During the past 15 to 20 years, residential development has encroached upon the lands along the entire length of the Creek where agricultural land use had once dominated. It seems inevitable that the remaining land will be developed in the future unless action is taken to acquire it within the public domain.

The Creeks Environment



The predominant natural characteristic of Penitencia Creek, within the design area, is a narrow green swath lined by Alders, Eucalyptus, Sycamores, orchard trees and pines.

Where there is agricultural use adjacent to the Creek, it typically reaches within 10 feet of the Creek's bank allowing natural growth to the stream.

Where development has occurred along the Creek, a floodplain has been designated by the Santa Clara Valley Water District in anticipation of the 100 year flood, but to date is not implemented. New residential construction along the Creek has been designed with a varying floodplain width of 100 to 300 feet in anticipation of this "Flood Control Program."

Land use east of King Road is predominately residential, west of King Road it is zoned light industrial.

Along the Creek study area, there exists several dominant natural and man-made features. The upper reach of the Creek, between Alum Rock Park and Noble Avenue, is lined and covered by trees. The scale of these trees and the naturally rolling topography, creates a quiet, intimate, creekside experience. The area between Noble Avenue and Piedmont Road is dominated by five percolation ponds and a large grove of Eucalyptus trees between Penitencia Creek Road and the Creek. The percolation ponds were constructed by the Santa Clara Valley Water

District to recharge aquifers. Devoid of natural amenities, they have little recreation potential in their existing state.

The area between Piedmont Road and Capitol Avenue, a relatively flat plain, is dominated by four school sites and several large parcels of agricultural land. The vegetation along the Creek in a very narrow strip borders both banks. Near Summerdale Avenue, where the Creek is culverted and flows underneath Penitencia Creek Road, there exists a small meadow between the roadway and the Creek. This meadow with large, pictureque, native Sycamore trees and walnuts, creates an excellent transition between the roadway and the Creek.

Below Capitol Avenue, the Creek flows in a narrow channel with few trees and the numerous roadway crossings restrict the natural creek environment. Levees built along the Creek, near King Road, have been overgrown by an impenetrable undergrowth of black berries.

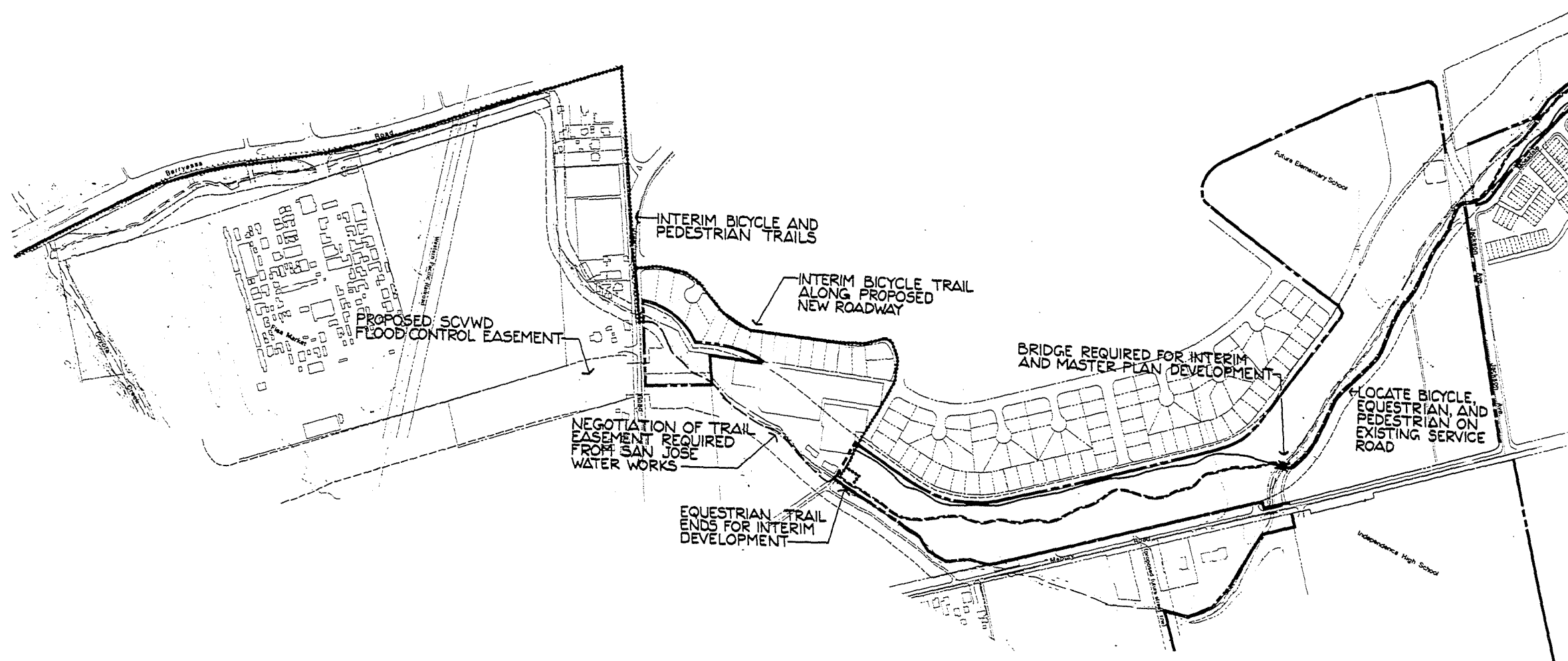
The Creek, although very restricted along Berryessa Road, is lined by an abundance of large Alders, and Willows from King Road to Coyote Creek.



The park program was to develop a pedestrian, equestrian and bicycle trail from Alum Rock Park to Coyote Creek along Penitencia Creek.

Utilizing the floodplain, these trails were to connect existing public lands. Because of the time table for implementing flood control measures and land acquisition, and "Interim Trail Plan" was developed to demonstrate its feasibility.

This plan indicates the areas where a trail system can be established from the Master Plan Study and where interim (temporary) trails are necessary prior to land acquisition. A majority of these interim trails had to be located within the roadway easement and do not comply with the goals or trail design criteria.



Land Acquisition

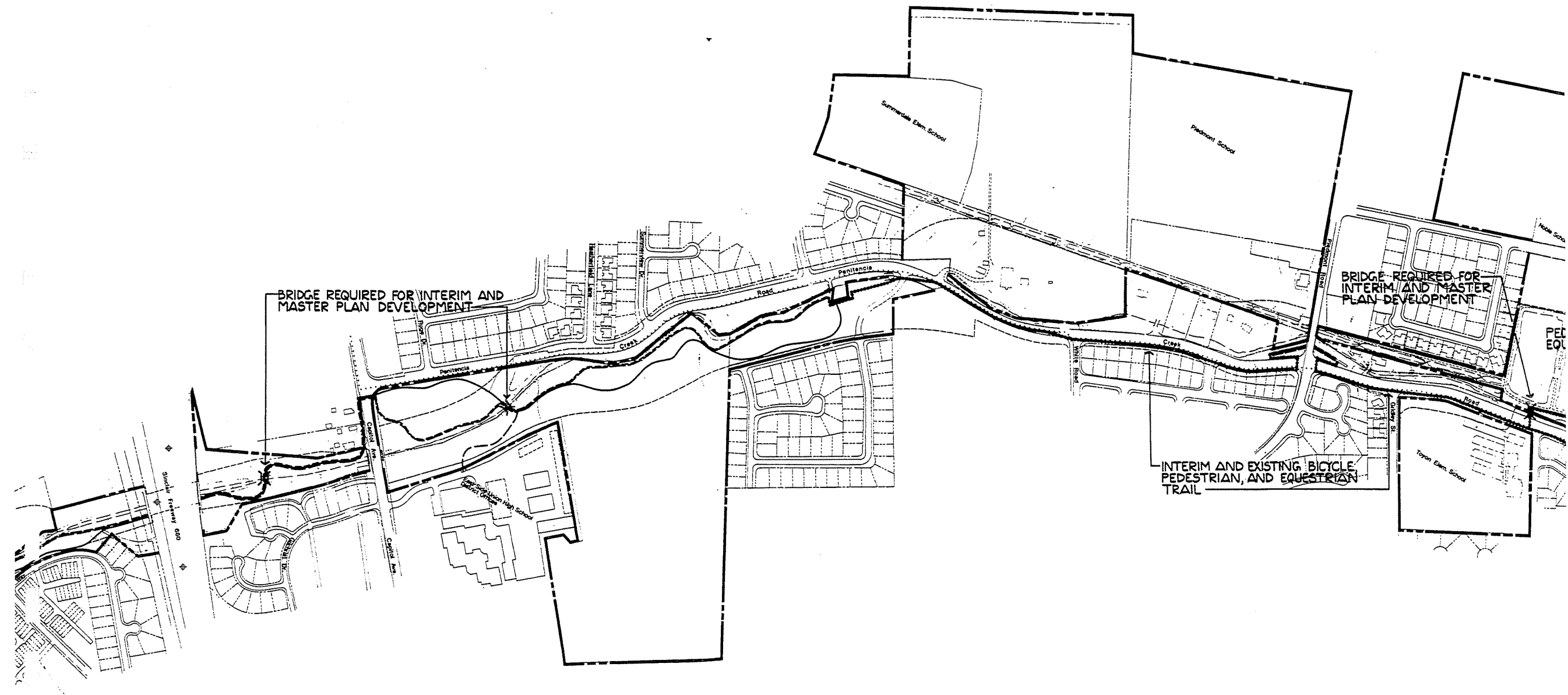
Upon completion of the interim trail plan, the identification and mapping of existing public and private lands became critical in order to identify and recommend potential candidate properties for acquisition by the County.

The mapped and identified parcels revealed possible acquisition in total, or as part takes only. Based on the goals and objectives previously established, a matrix was compiled for an orderly rational and objective analysis of the Potential Candidate properties.

The matrix was reviewed by the County Parks and Recreation Department, the consultant and the Citizens Advisory Committee for submitting recommendations to the Santa Clara County Parks and Recreation Commission. Their evaluation and recommendation to the County of Santa Clara Board of Supervisors provided the following direction to the County Parks and Recreation Department:

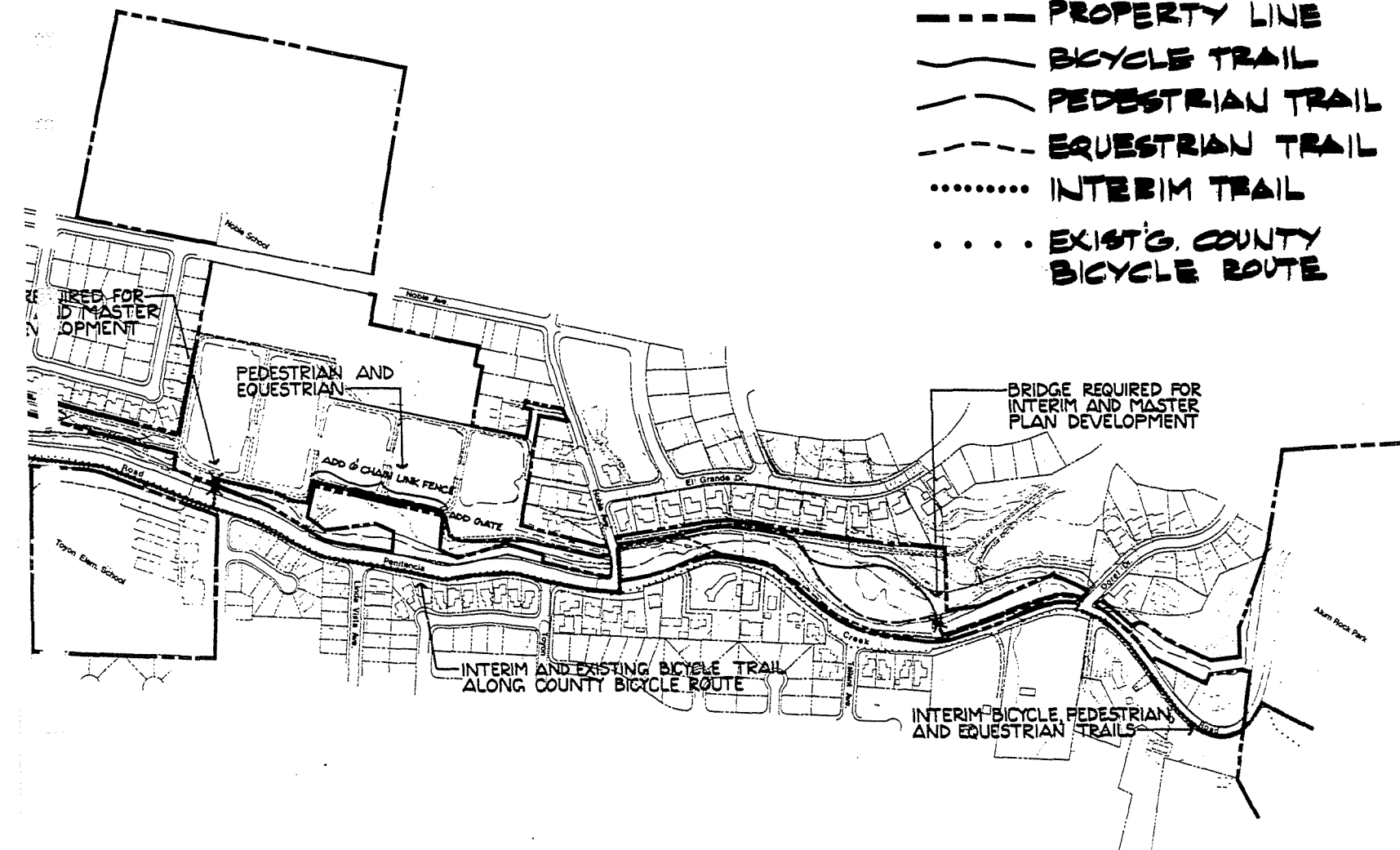
1. "Approves the concept of the Penitencia Creek Park Chain for a linked, linear, regional, multi-jurisdictional park from the East Valley Foothills along Penitencia Creek to Coyote Creek.
2. Approves County acquisition/purchase of those lands which would guarantee a complete linear park, with a primary emphasis on the larger parcels along the Creek.

3. Directs that the County, through the County Executive's office, provide the leadership to other public agencies to negotiate and develop with those agencies multijurisdictional agreements on such considerations as:
 - a. site purchases and priorities
 - b. citizen participation
 - c. plans and obligations for development and maintenance
 - d. Etc.
4. Affirms that the County will neither fund nor participate in intensive, organized recreational programs in this or other County park facilities."



LEGEND

- PROPERTY LINE
- BICYCLE TRAIL
- PEDESTRIAN TRAIL
- EQUESTRIAN TRAIL
- INTERIM TRAIL
- ... EXIST'G. COUNTY BICYCLE ROUTE



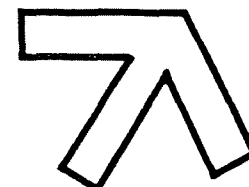
Interim Trail Plan Penitencia Creek Park

Santa Clara County, California
Park and Recreation Department

Royston Hanamoto Beck & Abey
Landscape Architects
225 Miller Avenue
Mill Valley, California

94941

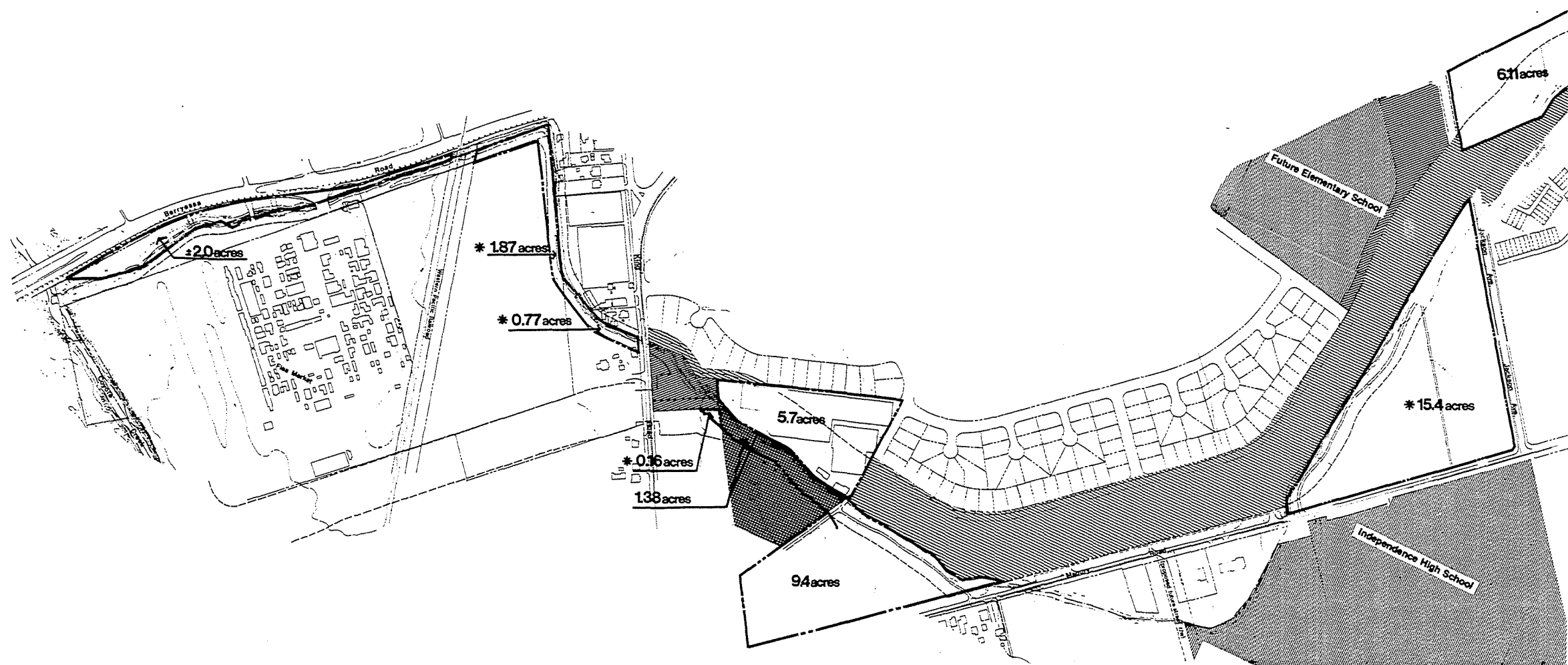
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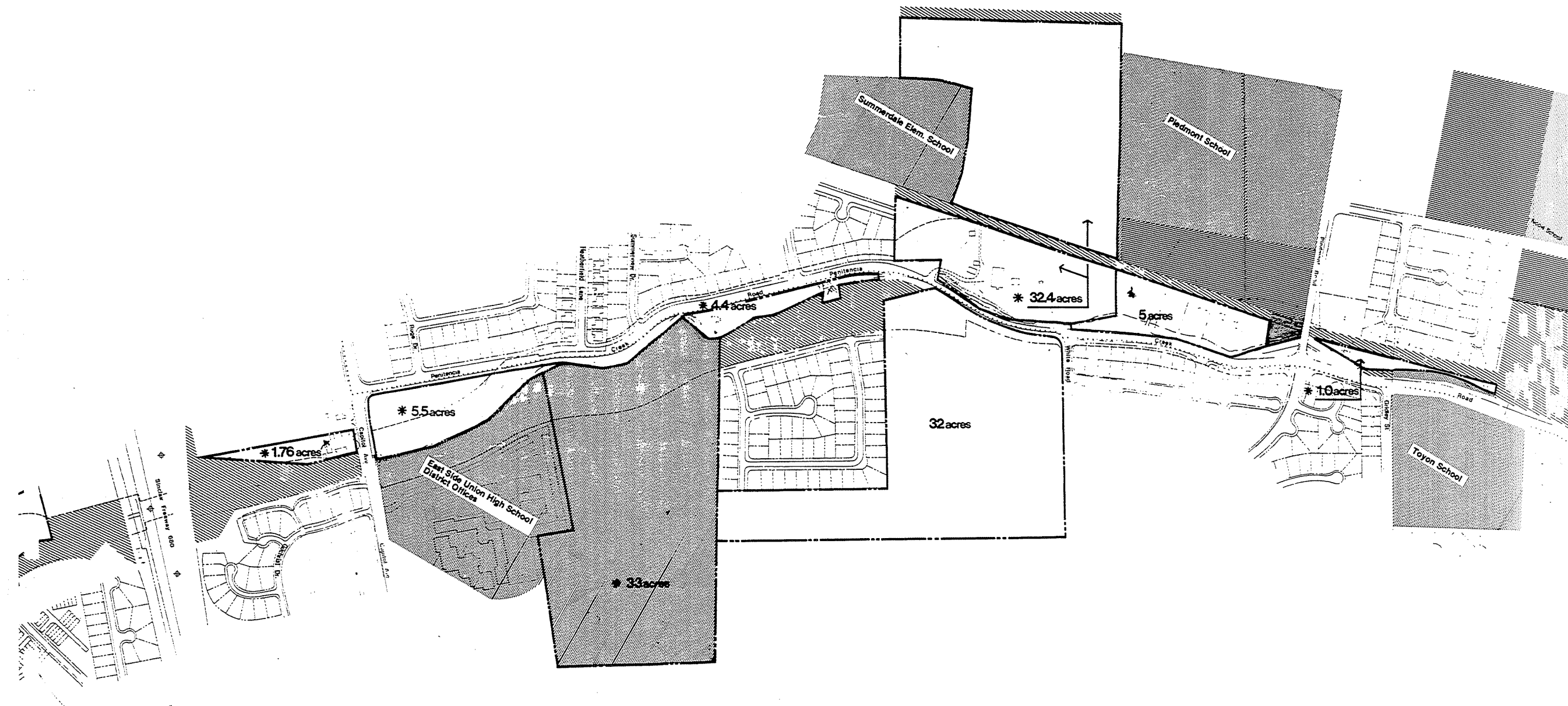


NORTH

Scale in feet
0 100 300 500

9





Existing
Penitencia
 Santa Clara County
 Park and Recreation
 Royster
 Landscaping
 225 Mill Valley
 Mill Valley

The Concept

As a preliminary step in the Master Plan formulation for Penitencia Creek Park, a Concept Plan was prepared to show zones of activity and to identify important visual relationships.

The design consultant developed the park concept to meet the Goals and Objectives of both the local citizens and the County Parks and Recreation Department. The natural creek environment and the linear quality was retained and emphasized by placing trails adjacent to or near the Creek. An increased water experience created by having a park adjacent to or including a creek, together with lakes became possible with larger parcels of land identified for potential park acquisition to develop the "Chain-of-Lakes".

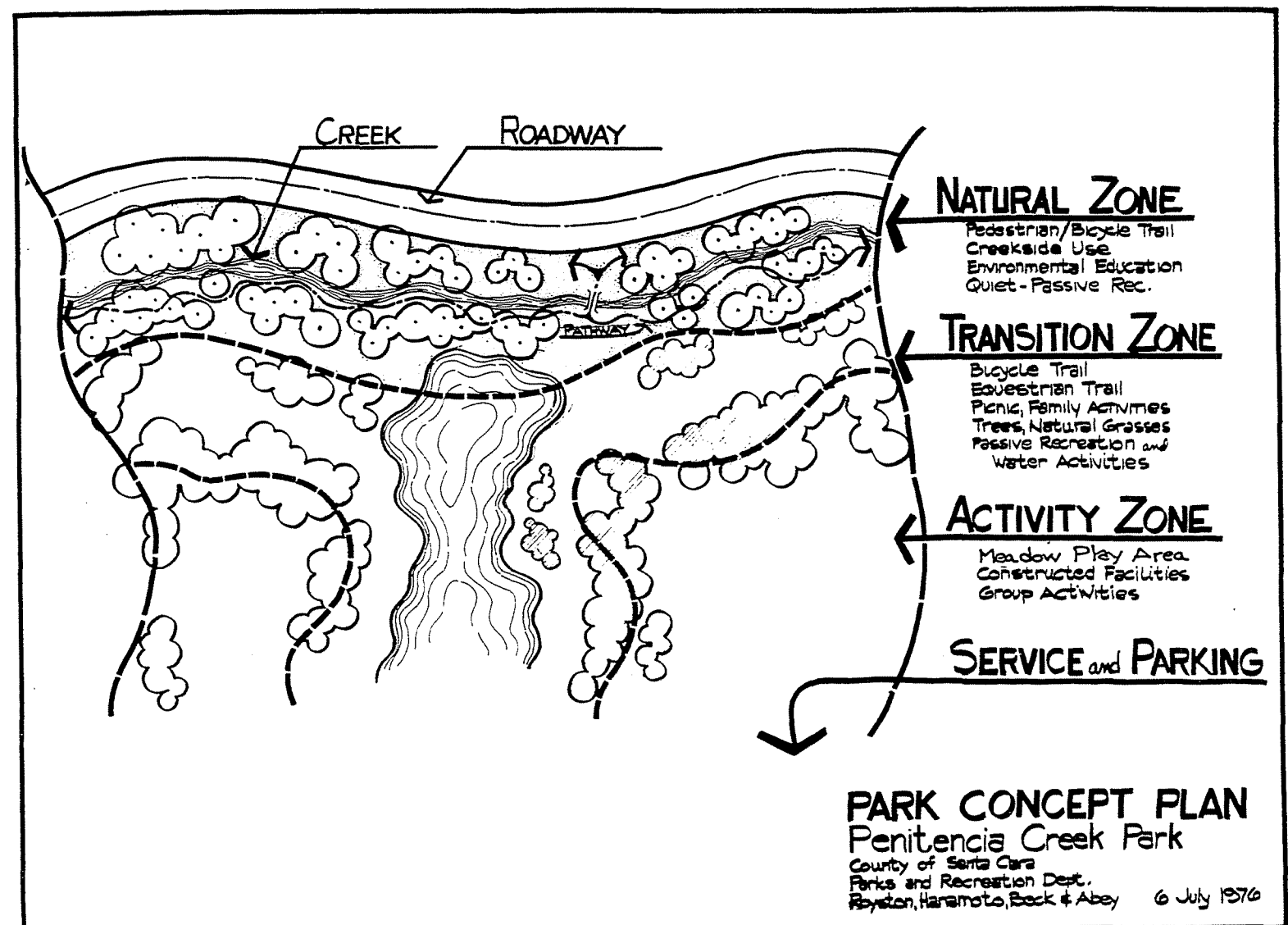
The use of percolation ponds in the area became increasingly important to attract and re-establish some wildlife associated with aquatic habitat in this region, becoming a unique and significant resource for bird observation and study.

The concept of a "chain-of-lakes" was developed by: (1) reshaping the existing percolation ponds between Noble Avenue and Piedmont Road, (2) by eliminating the linear percolation ponds between the above ponds and Summerdale Elementary School and, (3) by proposing purchase of lands in large enough parcels so that lakes could be developed for recreational purposes as well as fulfill future Water District percolation requirements.

The diagrammatic concept developed for

the proposed large land parcels created three zones of park development: a natural zone, of very low intensity development, adjacent to the Creek, limited to trail construction, minor grading, and planting. A transition zone of lakes, major grading, trees and

natural grasses abutting the natural area. A zone of activity would be established furthest from the Creek, including the major grading, lakes, meadow and lawn planting, major tree planting and/or parking areas, restrooms, interpretive displays, etc.



The Master Plan

The Master Plan for Penitencia Creek
Park has two general functions: As a planning document, it serves as a guide for future improvements along Penitencia Creek, and as a focus for developing joint-use agreements for lands held by the various agencies. As a development guide, the Master Plan incorporates plans for trails and circulation, planting and grading, lake and facility locations.

Utilizing the park concept, the Master Plan recommends a park, simulating the natural California landscape, using the Creek as its spine. The lakes will be developed for aquifer recharge facilities where soils permit and for recreational uses such as model boating, fishing, bird watching and waterside picnicking.

The reshaping of the existing percolation ponds, removal of the linear percolation ponds, the existing lakes at Overfelt Gardens and Independence High School; and the proposed 11.5 acres of new lakes will create a total chain of lakes of about 21 acres. The lakes will be shaped, graded, and planted to provide a natural water body. The percolation aspects should intensify due to the increase in linear shoreline, a primary design consideration for percolation lakes.

The park plan recommends the inclusion of picnic areas, several types and levels of ecological study areas, a native plant arboretum and interpretive facility; and 12 miles of bicycle, pedestrian and equestrian trails. Substantial grading

is proposed to simulate the rolling topography of the surrounding foothills, to create intimate usable outdoor spaces, and to provide buffers from surrounding urban influences.

Major planting and tree masses proposed throughout Penitencia Creek Park emphasize wildlife habitats, and re-establishment of a natural California landscape. Planting on the earth mounds will provide buffers, spatial definition, shade, interest and visual relief.

The following criteria for grading, trails and planting should be utilized for implementation of the Master Plan.

Grading Criteria:

1. Balance cut and fill.
2. Coordinate with Santa Clara Valley Water District for the lakes and flood control requirements.

Grading Goals:

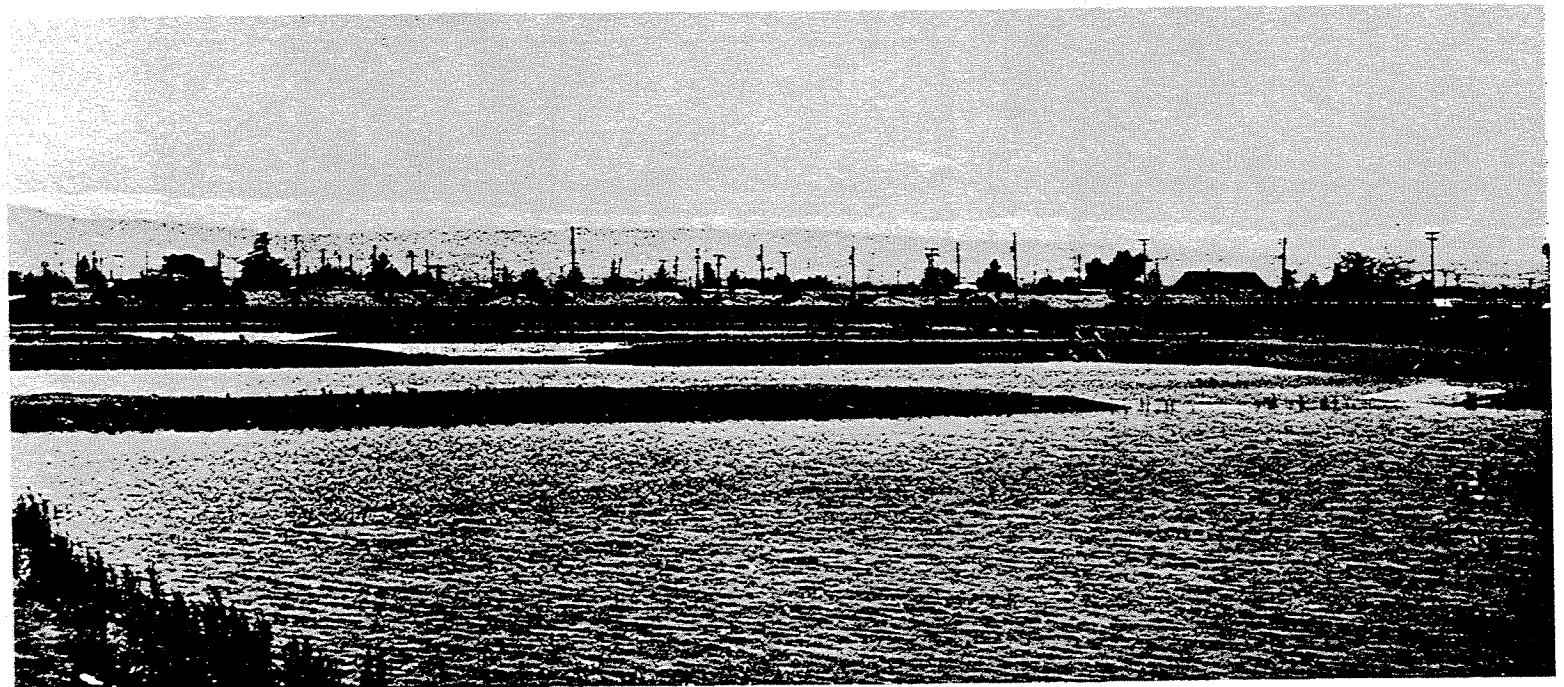
1. Create several new lakes or percolation ponds to fulfill the concept of a chain-of-lakes.
2. Reshape the existing percolation ponds to enhance the recreation potential as well as the percolation aspects of these ponds.
3. Provide flood protection.
4. Diminish the impact of the major

adjacent roadways or development.

5. Introduce visual diversity and interest within the park.
6. Provide visually aesthetic screening from adjacent housing and urban influences.
7. Encourage and attract wildlife associated with natural water habitats in the area.

Although calculations and final formulation of the grading required to accomplish the above goals will require further detailed study, the character and relative relationships are set forth in the Master Plan. Final grading should be coordinated with the involved agencies to insure safety as well as provide a naturally aesthetic park.

Master Plan grading for the park is shown with contours representing two foot change in elevation.



Trails Criteria:

1. Separate pedestrian, bicycle and equestrian trails where feasible.
2. Pedestrian trail - 3 to 5 feet wide, natural soil with well drained surface.
3. Equestrian trail - 2 to 4 feet wide, natural compacted soil, decomposed granite or sawdust.

4. Bicycle trail - 8 to 10 feet wide, asphaltic concrete surface.

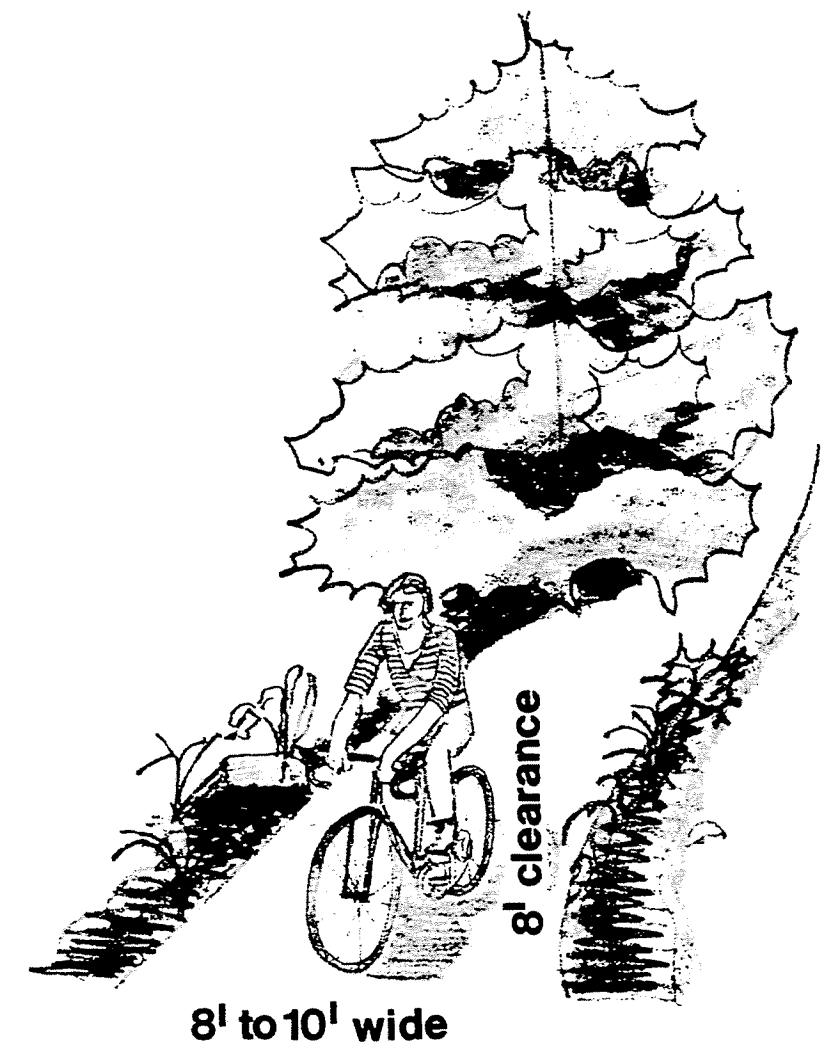
Trails Goals:

1. Linear recreation system.
2. Connection to other public lands and facilities.
3. Maximize natural creek and lake experience

4. Construct as unobtrusive as possible, avoid steep grades with minimal disturbance to the land.

5. Avoid the location of equestrian trails in picnic and recreation areas.

The various trail experiences are the principal recreation facility of Penitencia Creek Park.



Planting Criteria:

1. In the floodplain coordinate selection and maintenance with the Santa Clara Valley Water District.
2. Select plant materials indigenous to the valley floor as well as materials of environmental and educational value.
3. Install plant materials in naturalized masses of varying spacing.
4. Develop a native plant arboretum composed of a different California plant communities.
5. Utilize plant sizes, shapes, color, texture and seasonal variation to provide contrast, visual and audio screens, areas of activity and continuation of the existing creek environment.
6. Provide erosion control on all disturbed areas and creek channel problem areas.

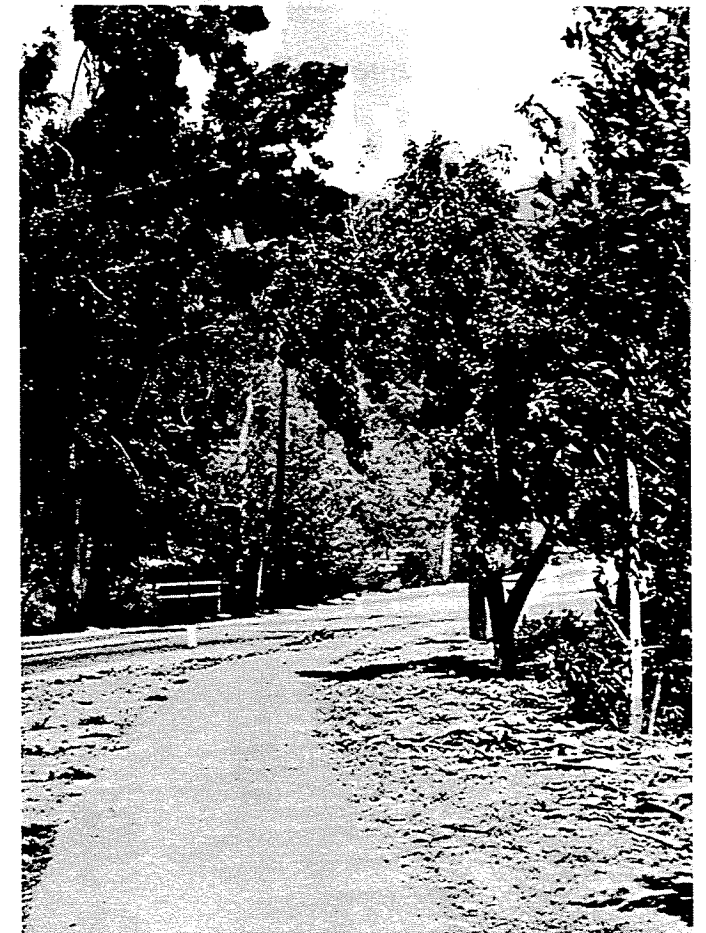
Planting Goals:

1. Encourage active community organization involvement in landscape development.
2. Re-establish and extend creek and lakeside understory planting to encourage wildlife habitats.
3. Include fruit trees as an integral

part of the planting concept to provide a link to the recent history of the Valley.

4. Evaluate the environmental, horticultural, and functional plant characteristics to determine the most desirable species for the varying conditions and specific uses.
5. Establish an arboretum complementary to Overfelt Gardens and not in competition to it.
6. Introduce freshwater marshes and the following plant communities: Coastal Strand, Pinyon-Juniper Woodland, Northern Coastal Scrub, Coastal Sage Scrub Redwood Forest, Douglas Fir Forest, Yellow Pine and Mixed Evergreen Forests, Northern Oak Woodland, Foothill Woodland, Chaparral and Valley Grassland.

Royston, Hanamoto, Beck & Abey has recognized, throughout the Master Plan design, that planting of the creekside, the addition of freshwater marshes and California plant communities and the incorporation of extensive tree masses will establish a park of significant regional and environmental quality for Santa Clara County.



Master Plan Description

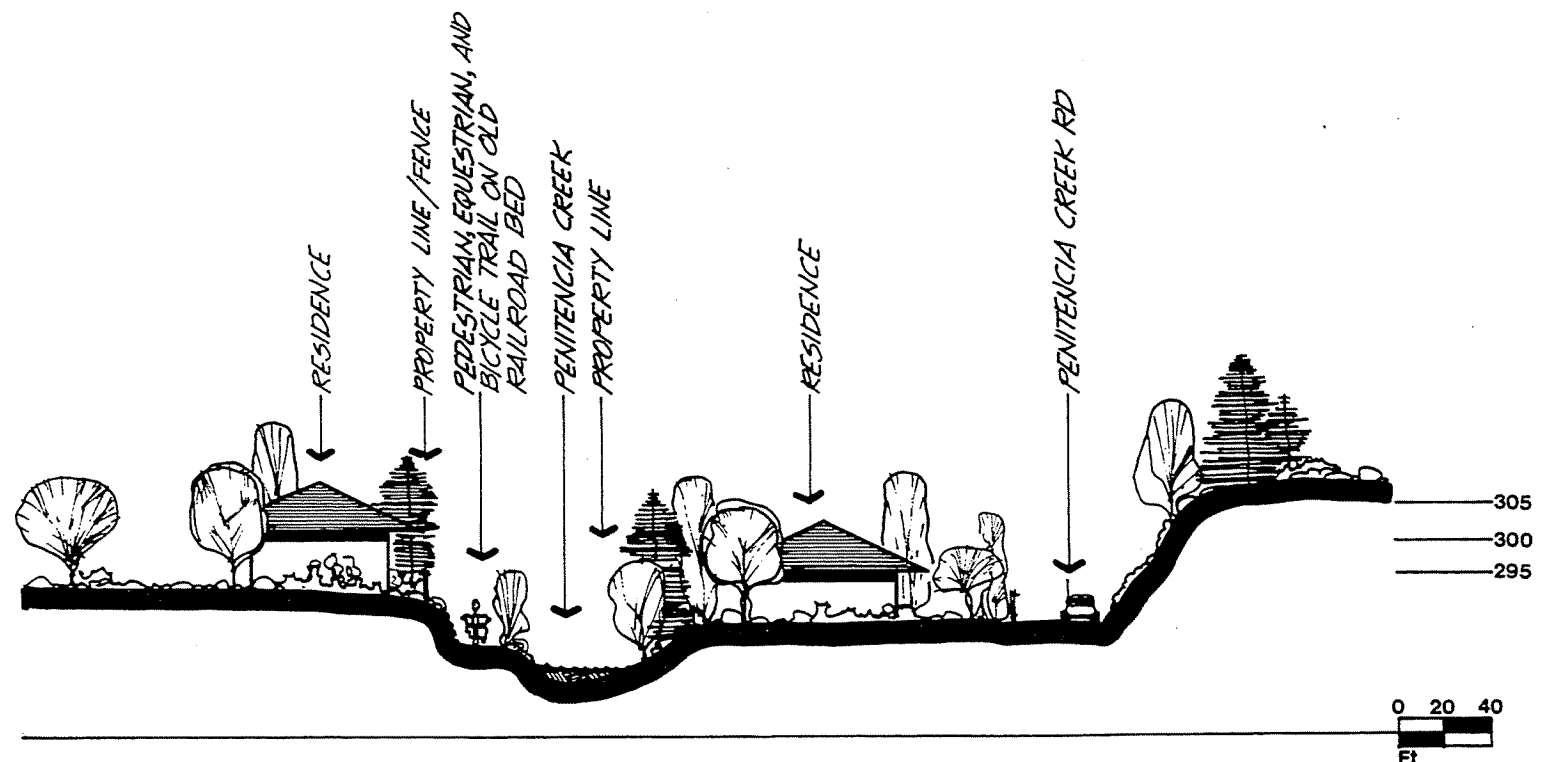
Penitencia Creek is subdivided into reaches which were selected for descriptive and magnitude of cost purposes. Beginning in the east with Alum Rock Park, there are seven reaches:

1. Alum Rock Park to Noble Avenue
2. Noble Avenue to Piedmont Road
3. Piedmont Road to Summerdale Drive north of Penitencia Creek Road
4. Summerdale Drive to Capitol Avenue south of Penitencia Creek Road
5. Capitol Avenue to Jackson Avenue
6. Jackson Avenue to King Road
7. King Road to Coyote Creek

Reach 1: Beginning some 250 feet north of the entrance to Alum Rock Park, the trail requires a bridge across Penitencia Creek to the trail system situated on the old railroad bed.

The bicycle, pedestrian and equestrian trails will be located along the north side of the Creek for approximately 500 feet, crossing an existing wooden bridge with an on-grade crosswalk at Dorel Drive. The combined trail continues along the south side of the Creek for 600 feet. The equestrian trail remains along the south side for an additional 900 feet. The bicycle and pedestrian trails cross a new bridge where the pedestrian trail meanders along the north edge of the Creek,

and the bicycle path flows north of the meadow. The small, intimate, natural meadow's proposed use is for very informal picnic and passive recreation. The bicycle and pedestrian trails merge at the west end of the meadow and are located on an existing dirt service roadway; the equestrian trail crosses the Creek, on-grade, and the three trails merge to continue on to Noble Avenue. The existing conditions in this reach are conducive to informal recreation use and require minimal planting, grading or maintenance. However, mitigation landscaping should be coordinated with the Santa Clara Valley Water District's flood control improvements.



Reach 2: Beginning at Noble Avenue, the three combined trails are located along the north side of the Creek on an existing service road for 600 feet. The equestrian trail meanders along the Creek while the bicycle and pedestrian trails continue along the existing desilting pond, and on top of a berm for views of the lakes. The three lakes, located north of the pathway, are the reshaped percolation ponds, which will be at different levels, connected from east to west by rocky cascades. Overlooks and islands for wildlife sanctuaries provide a variety of waterside activities. The minor pedestrian and bicycle paths connect to Noble Park, Noble School; and to Toyon School across a new bridge.

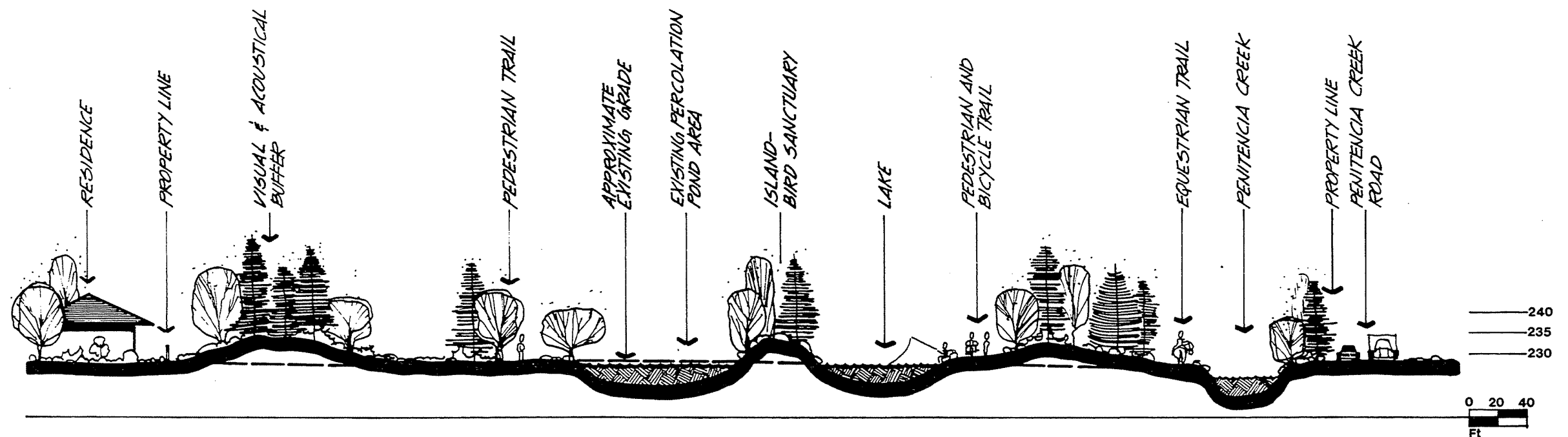
The bicycle and pedestrian trail remains

combined to the west end of the lakes, while the pedestrian and equestrian trails merge and continue along the Creek.

The bicycle path to the north of these trails is in the area of the removed linear percolation ponds which are removed to create a natural park environment. The three trails then combine to cross an existing bridge and connect with the underpass at Piedmont Road.

Grading in this Reach will be extensive. The five existing percolation ponds should be reshaped, deepened and formed into three lakes with natural curvilinear forms. Mounding and planting will be established to provide buffers from surrounding urban influences, create variety and to establish diverse scale.

Plant types should include those which will enhance this area as a wildlife habitat.



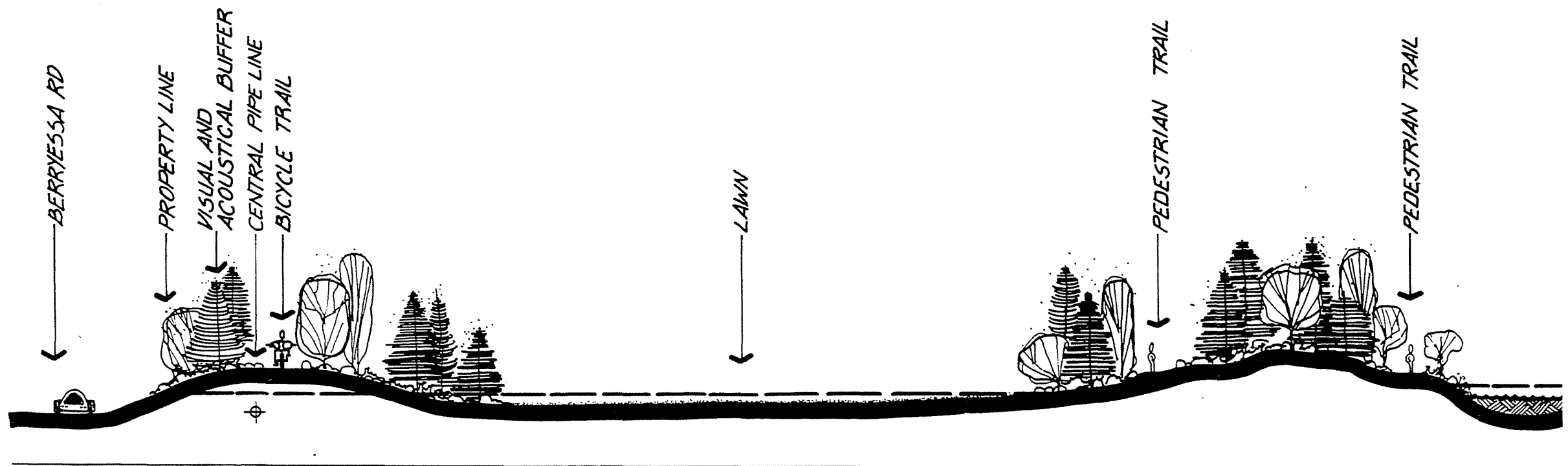


Reach 3: The combined trails continue at the underpass at Piedmont Road, following the south side of the Creek and cross over a new bridge some 150 feet downstream of the underpass.

Upon crossing the bridge, pedestrian/equestrian trails follow the Creek while the bicycle path winds through a large turf meadow 100 to 150 feet north of the Creek. The pedestrian trail remains combined with the equestrian trail for approximately 800 feet from the bridge, then cuts north and meanders along the south shore of a 5.5 acre lake. The

equestrian trail continues along the Creek to the culvert under Penitencia Creek Road where the three trails merge at the southwest corner of the lake and parallel Penitencia Creek Road to Summerdale Drive.

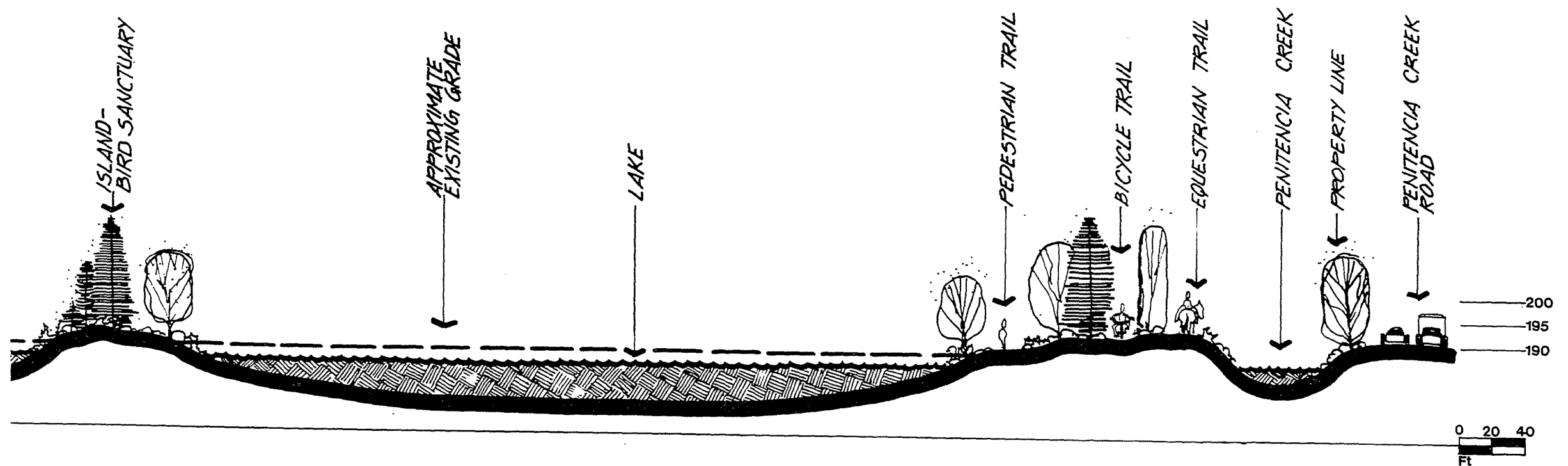
Reach 3 is enhanced by the lake which provides fishing, model boating and ecological study adjacent to Summerdale and Piedmont schools. The existing lawn areas of the schools will be supplemented within the park creating a link between the two schools. The majority of the park in this area will have lawn



and irrigation. Within the lawn areas, south of Piedmont School, there will be a natural bowl amphitheater, informal in appearance, and primarily used as an outdoor education and impromptu entertainment facility.

Parking in this reach will be provided at the two schools and in a 25 car parking lot at the northwest corner of the park site, off Berryessa Road.

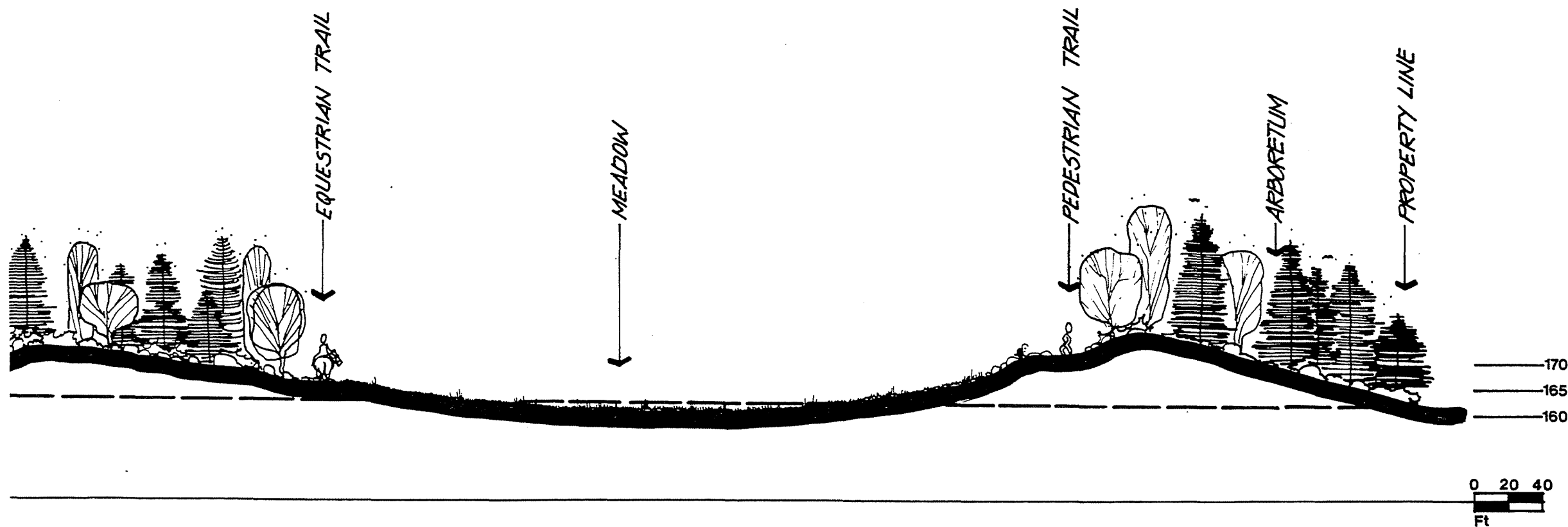
Grading and planting in this reach is substantial, providing similar scale and function as in Reach 2.





Reach 4: The three trails cross the road on-grade at the intersection of Summerdale Drive and Penitencia Creek Road, and cross the Creek on a nearby existing wooden bridge. Pedestrian/equestrian trails follow the Creek along its south bank for approximately 700 feet. The bicycle path parallels Stonecrest Way approximately 200 feet south of the Creek, and then the three trail systems cross a newly constructed creek which supplies the four acre lake in this reach. Once across the Creek, the pedestrian/equestrian trail continues along the south side of Penitencia Creek until it merges with the bicycle path at another bridge which crosses the outlet of the lake. The three

combined trails continue from this point 350 feet west, cross Penitencia Creek and separate. The pedestrian/equestrian trail follows the Creek and moves north to the intersection of Capitol Avenue and Penitencia Creek Road. The bicycle path starts north at the bridge, parallels Penitencia Creek Road and merges with the pedestrian and equestrian trail to cross Capitol Avenue, on-grade, at its intersection with Penitencia Creek Road. This intersection requires further study by the traffic engineers to determine the most viable alternative for crossing. Stop lights with pushbuttons, overpasses, or tunnels have been suggested as alternatives for a safe crossing at this location.



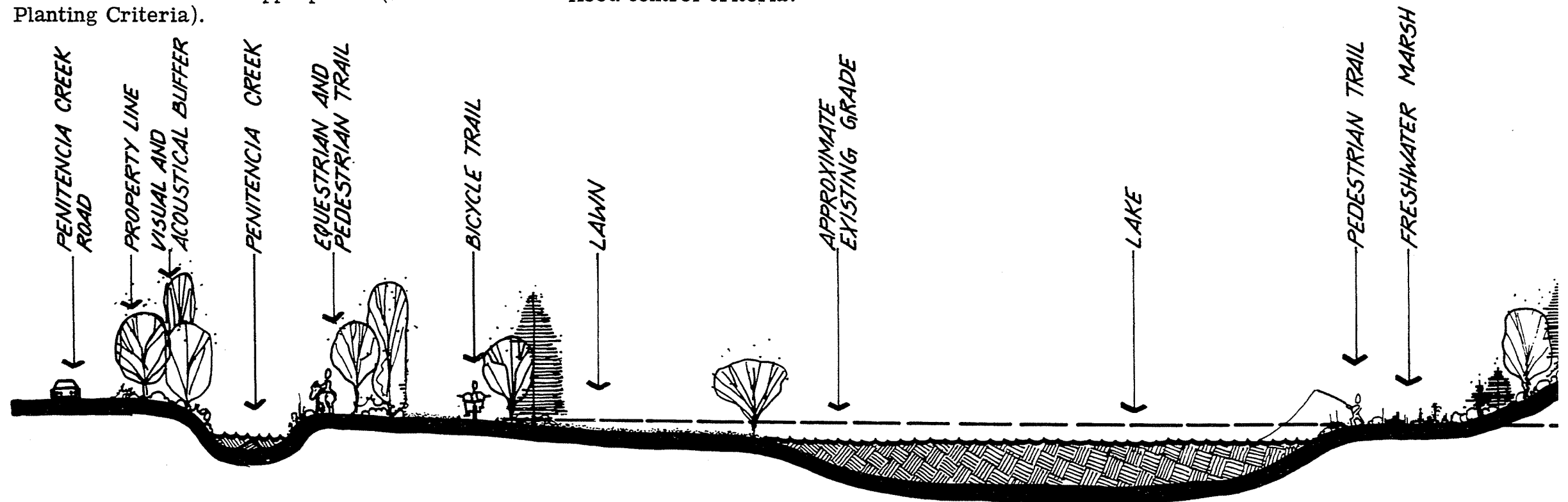
Reach 4 has been master planned to include the four acre lake, a native plant arboretum, fresh water marsh, interpretive facility and restrooms. The arboretum should include a cross section of California native plant communities, and should be carefully coordinated with the botanical gardens at Overfelt Park so that the facilities compliment each other to provide a unique facility of regional significance to the entire South Bay community.

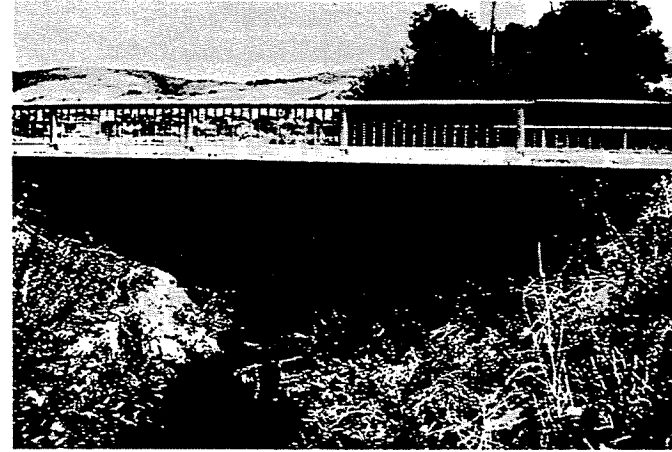
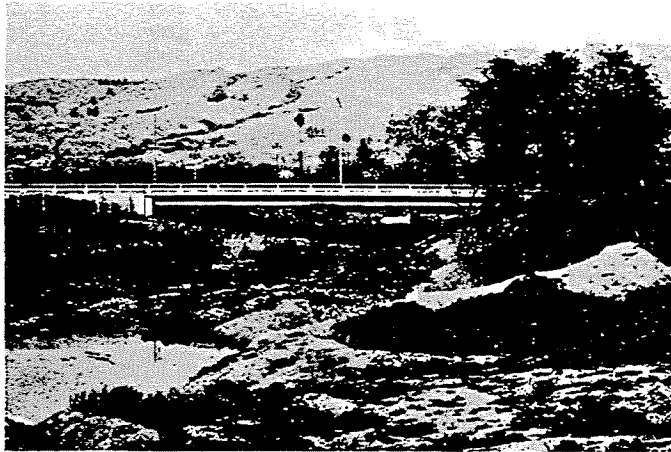
Further research is required to examine soils and climate to determine what plant species within the selected plant communities are most appropriate (see Planting Criteria).

The fresh water marsh and the lake provide significant wildlife habitats.

Parking in this area will be provided at the terminus of Stonecrest Way and at the southeast corner of the site near a future extension of Clearview Drive. Significant parking potential is also available at the East Side Union High School District offices.

The major areas of the park in this Reach will be graded to simulate the rolling foothills, provide screening, variety and scale in coordination with the Santa Clara Valley Water District flood control criteria.

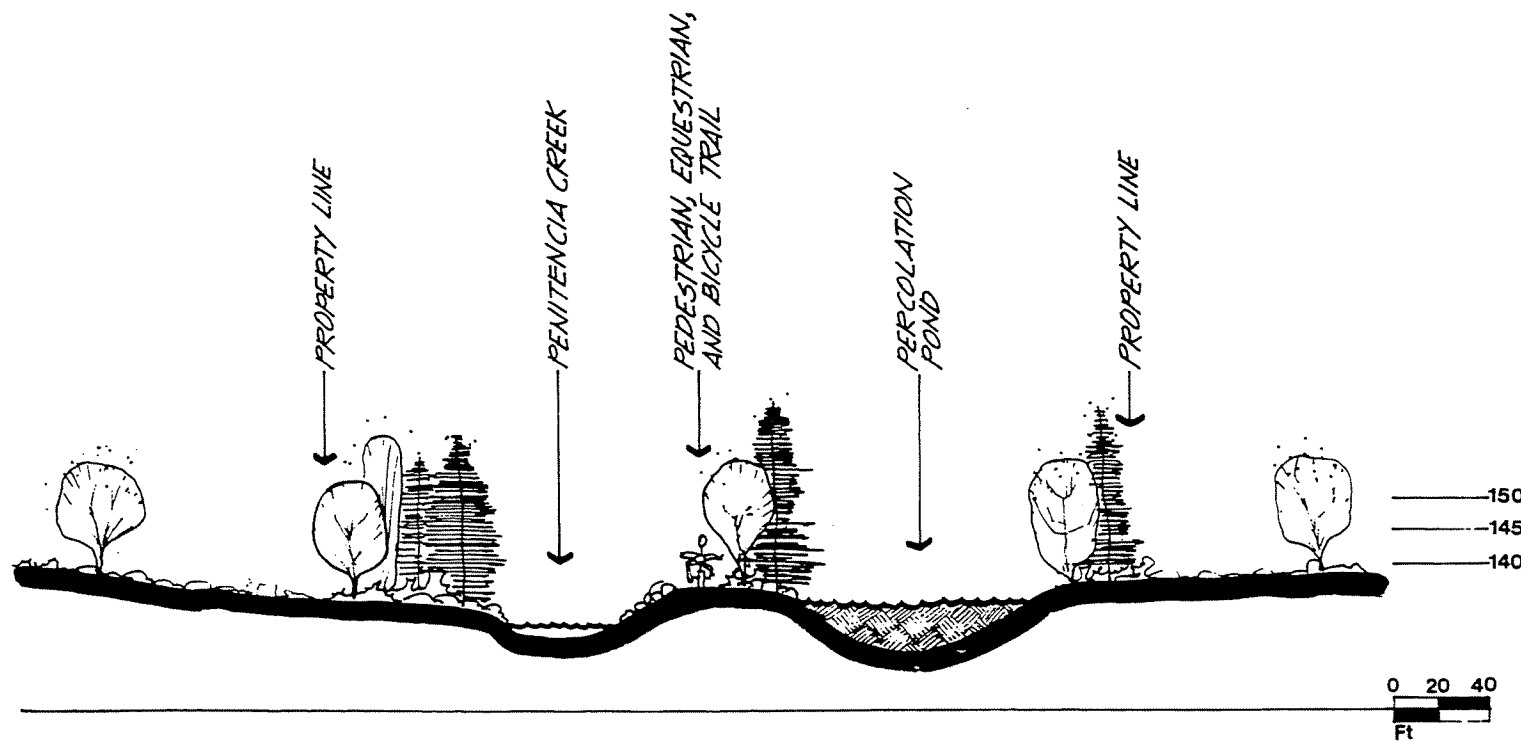


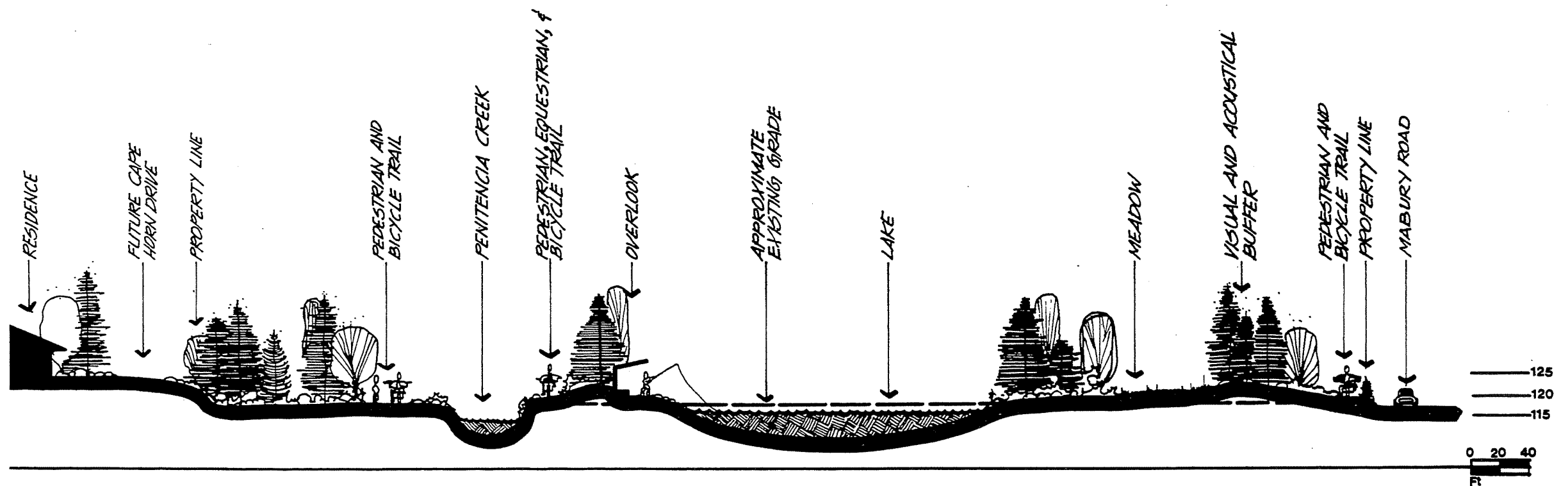


Reach 5: The combined trails parallel Capitol Avenue and follow the north bank of the Creek for 550 feet, cross a new bridge to the south bank of the Creek adjacent to a percolation pond; cross under the Sinclair Freeway underpass, and follow the south bank past another percolation pond to Jackson Avenue.

West of the Sinclair Freeway, a small natural meadow will be developed along the north side of the Creek.

Little grading is required in this Reach. Major plantings of deciduous and evergreen trees will provide spatial definition, shade, and buffers from surrounding urban influences.





Reach 6: The park in this Reach is predominantly within the confines of the proposed Santa Clara Valley Water District's floodplain. Beginning at Jackson Avenue, there are two major east/west trails. One along the north bank which includes bicycle and pedestrian; and one along the south bank which includes bicycle, pedestrian and equestrian.

The trail along the south bank of the Creek connects to Independence High School and a proposed meandering walk adjacent to the improved Mabury Road. This meandering pathway should be constructed of sufficient scale to carry both pedestrians and bicycles. The lands at the corner of Jackson Avenue and Mabury Road will be graded to provide for a two acre lake to compliment the existing lake at Independence High School.

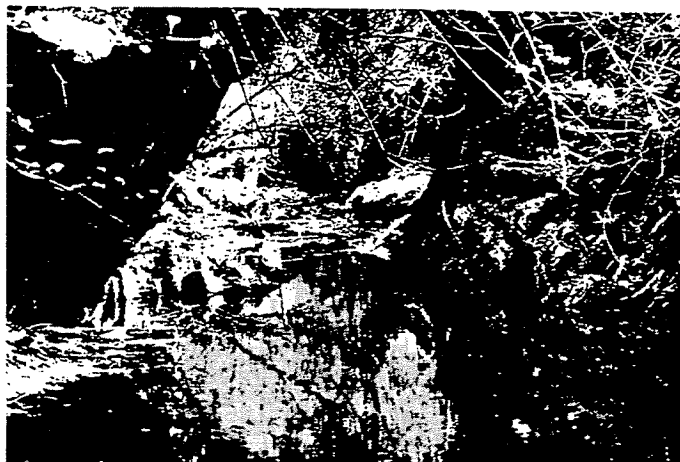
Grading and planting in this area will provide spatial definition, screening and wildlife habitats as well as flood control protection. The three trails parallel the south bank of the Creek and cross the Creek some 1,400 feet downstream of Jackson Avenue on a new bridge.

The pedestrian and bicycle trail along the north bank of the Creek connects to a future elementary school and a future City park facility. The future park will potentially include a restroom, tot lot, picnic facilities and small meadow. The trail will connect with the south bank trail near the new bridge. The pedestrian/equestrian trail parallels the north bank of the newly constructed creek bed, while the bicycle path par-

allels the proposed Cape Horn Drive. The three trails remain separated until they cross the Creek on a new bridge 350 feet east of King Road, where they merge with a pedestrian/bicycle trail paralleling the south bank from Mabury Road to this point. The combined trail follows the south bank to King Road.

Parking in this area will be provided at the new school site and in a parking area adjacent to Jackson Avenue

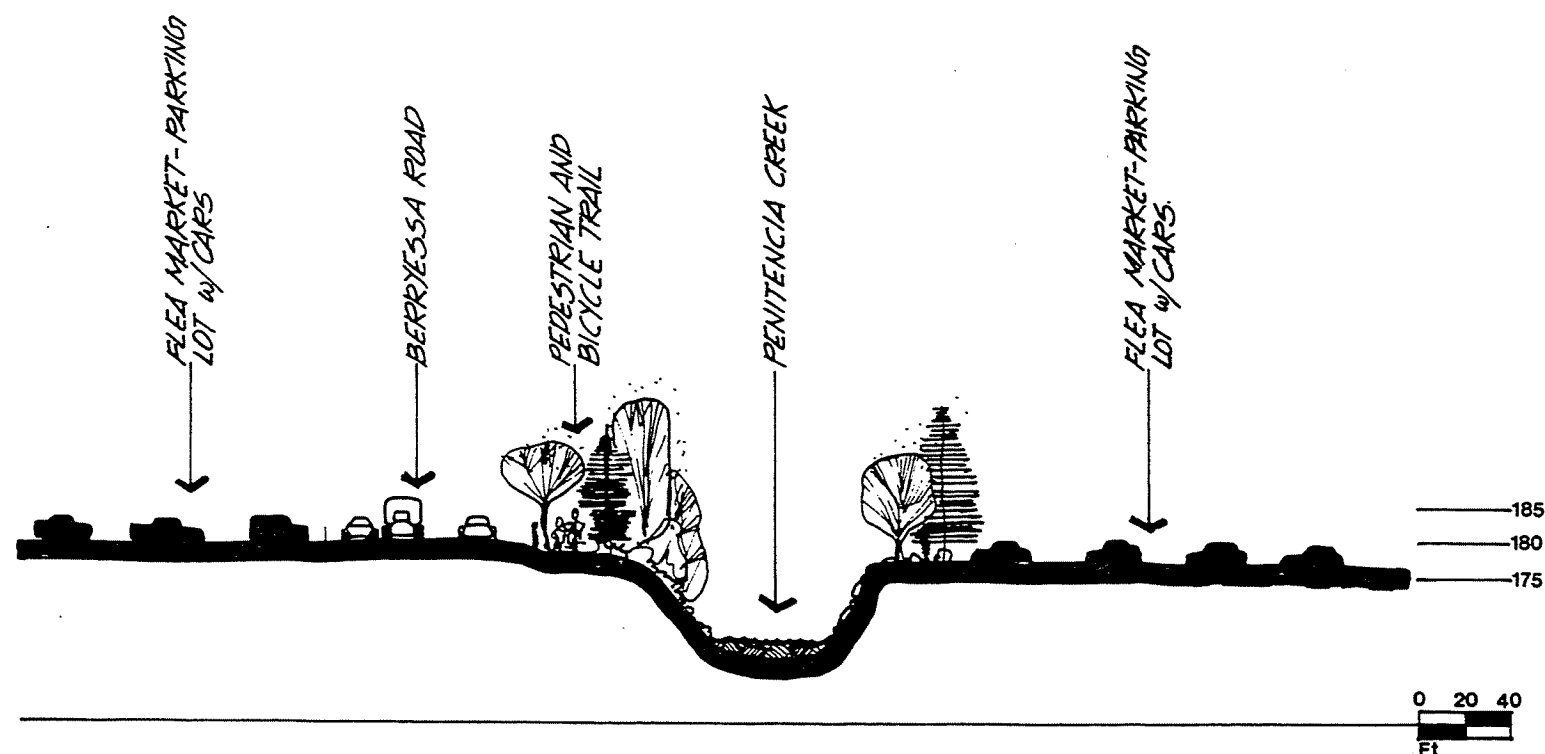
Grading and tree planting along the entire Reach is proposed to provide flood control, and strong buffers from adjacent roadways and residential development. Three small lakes will be graded to hold flood waters, but will be shallow natural grass meadows during low flow periods.

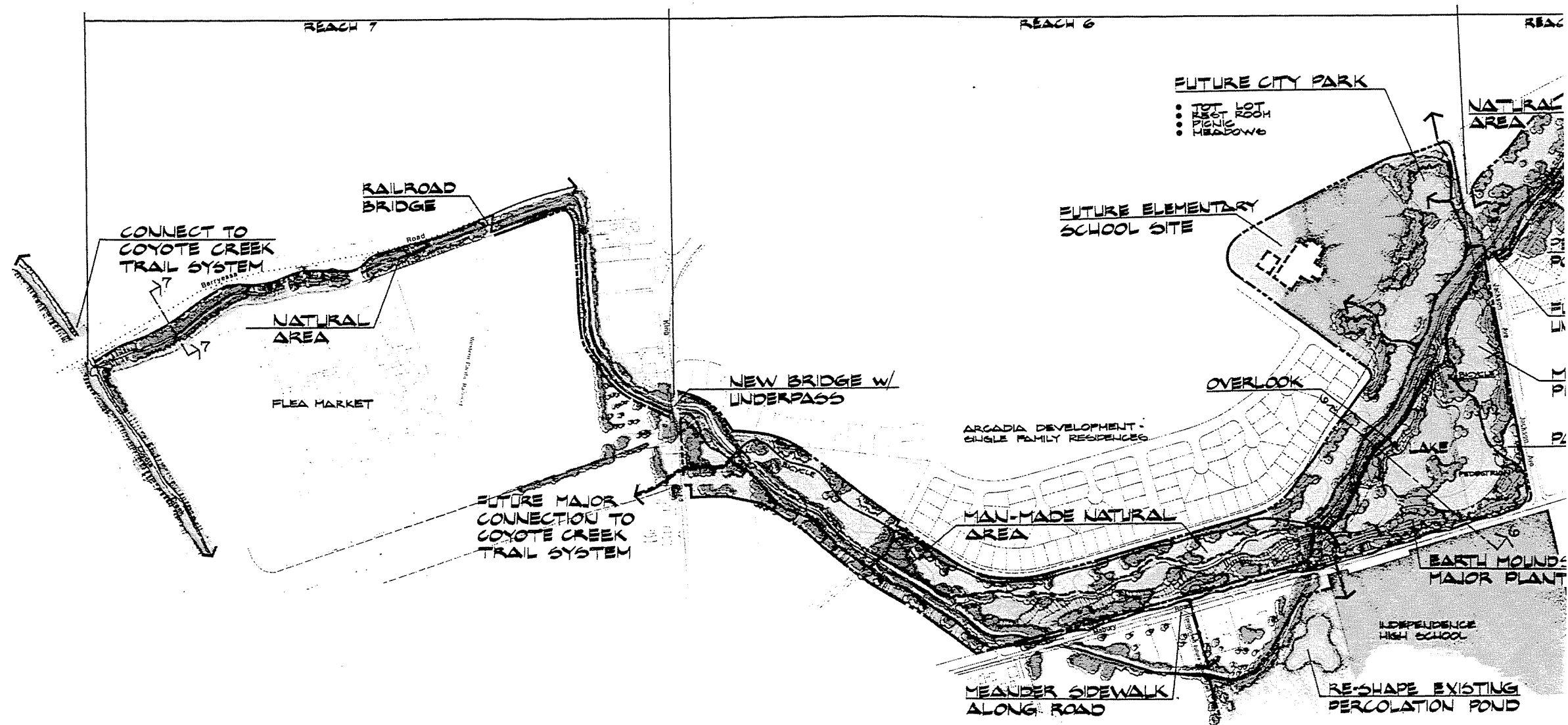


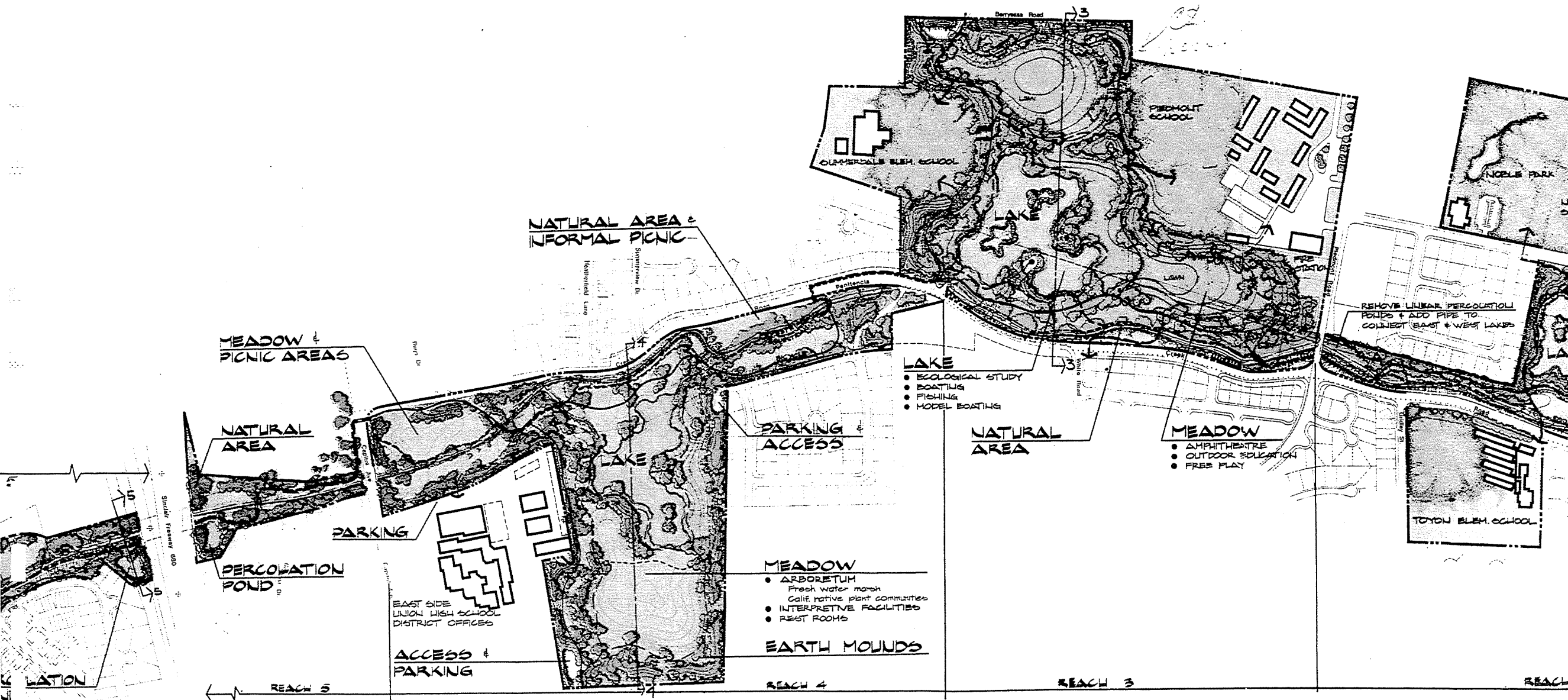
Reach 7: Beginning at King Road, a combined trail carries pedestrians, equestrians and bicyclists. The trail follows the south bank of Penitencia Creek to the existing railroad bridge east of the flea market. A new bridge will be constructed adjacent to the railroad bridge and the trails parallel the Creek along the north bank to the proposed connection at Coyote Creek.

Due to extremely hazardous space restrictions along Berryessa Road, it is recommended that alternative pathways be implemented as an integral part of the proposed Santa Clara Valley Water District's flood control by-pass to the south of the flea market.

Grading and planting in this Reach will be minimal, providing buffer planting, shade and visual relief.







Magnitude of Development Cost

The "Magnitude of Development Cost" was developed to facilitate its use in the future on the various agencies lands and corresponds to the reaches described in the "Master Plan/Description". Purchase of certain lands, by the County, is assumed to the extent of their present allocation of funds, 3.5 million dollars. The column headed "private" relates to those lands within the Master Plan area which will remain as such until some future agency purchase.

The costs were developed in broad general terms, and are in 1977 dollars, assuming one complete contract.

The park development costs would be somewhat larger if it is developed in phases. All item costs will vary depending on final design and quantities. A contingency has been included to cover a portion of the variables.

Joint-use agreements by the various agencies have not been developed to date. Therefore, final determination of the agencies' responsibilities has not been assigned. It is assumed that each agency is responsible for their land holdings and that overall development and coordination should be the responsibility of Santa Clara County Parks and Recreation Department.

The Summary of Costs, Part I, relates to the total cost for each Reach. Part II relates to each agencies land development requirements, including a 25% contingency. The Summary of Costs,

or Magnitude of Development Cost, does not include the following:

1. property acquisition
2. demolition, removal or relocation costs of residences
3. certain Santa Clara Valley Water District flood control improvements
4. future vehicular bridges and pedestrian underpass requirements
5. park maintenance

SUMMARY OF COSTS			
Part I	Reach	Description	Total
	1.	Alum Rock Park to Noble Avenue	\$73,175.00
	2.	Noble Avenue to Piedmont Road	432,116.00
	3.	Piedmont Road to Summerdale Road (North of Penitencia Creek Road)	879,636.00
	4.	Summerdale Road to Capitol Avenue (South of Penitencia Creek Road)	583,775.00
	5.	Capitol Avenue to Jackson Road	63,718.00
	6.	Jackson Road to King Road	565,717.00
	7.	King Road to Coyote Creek	53,250.00
		Subtotal:	\$2,651,387.00
		25% Contingency:	662,847.00
		TOTAL:	\$3,314,233.00
			=====
Part II	Park Development	Private lands	\$207,462.00
		Santa Clara Valley Water District (SCVWD) lands	894,098.00
		City of San Jose lands	577,383.00
		County of Santa Clara lands	1,635,290.00
		TOTAL:	\$3,314,233.00
			=====

Magnitude of Development Cost
Penitencia Creek Park

Reach 1 Alum Rock Park to Noble Avenue

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land		1 a.	6.73			
Clearing & Grubbing			3 a.		\$ 1,000	\$ 3,000
Grading						
Storm Drainage						
Lakes						
Bicycle Trail			625 l.f.		10	6,250
Pedestrian Trail			575 l.f.		3	1,725
Equestrian Trail		250 l.f.	850 l.f.		2	2,200
Bicycle/Pedestrian Trail			550 l.f.		10	5,500
Pedestrian/Equestrian Trail						
Bicycle/Pedestrian/ Equestrian Trail			1,525 l.f.		12	18,300
Bridges			2		15,000	30,000
Parking Lots						
Turf & Irrigation						
Native Grasses			2 a.		600	1,200
Trees						
Naturalized Plantings			1 a.		2,000	2,000
Amphitheatre						
Interpretive Facility						
Restrooms						
Lighting						
Miscellaneous Site Development					Allow	3,000
Tot Lot						
Arboretum						
Total Cost Reach 1						\$73,175

Reach 2 Noble Avenue to Piedmont Road

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land	3.1	16.24	6.7*			
Clearing & Grubbing	.5 a.				\$ 1,000	\$ 500
Grading		8 a.	5.78 a.		Lump Sum	44,463
Storm Drainage					Lump Sum	20,000
Lakes & Pipes		5.85 a.			Lump Sum	206,000
Bicycle Trail		850			10	8,500
Pedestrian Trail		300	1,250 l.f.		3	3,750
Equestrian Trail	325	800			2	2,250
Bicycle/Pedestrian Trail		2,325	425 l.f.		10	27,500
Pedestrian/Equestrian Trail	750				5	4,650
Bicycle/Pedestrian Equestrian Trail		750			12	9,000
Bridges		2			15,000	30,000
Parking Lots						
Turf & Irrigation						
Native Grasses	1.6 a.	2 a.	5.78 a.		600	5,628
Trees	55	550	350		25	23,875
Naturalized Plantings		8 a.			2,000	16,000
Amphitheatre						
Interpretive Facility						
Restrooms						
Lighting						
Miscellaneous Site Development						
Tot Lot						
Arboretum						
Total Cost Reach 2						\$432,116

Magnitude of Development Cost
Penitencia Creek Park

Reach 3 Piedmont Road to Summerdale Road
(North of Penitencia Creek Road)

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land	5.0 a.	3.19 a.	7.84 a.	32.47 a.		
Clearing & Grubbing	1 a.		7 a.	24.5	\$ 1,000	\$32,500
Grading	2 a.	3.19	7 a.	24.5	Lump Sum	118,386
Storm Drainage					Allow	25,000
Lakes & Pipes				5.56	Lump Sum	120,800
Bicycle Trail	850 l.f.			4,300 l.f.	10	51,500
Pedestrian Trail	150		950	4,550	3	16,950
Equestrian Trail				950	2	1,900
Bicycle/Pedestrian Trail				900	10	9,000
Pedestrian/Equestrian Trail	700			100	5	4,000
Bicycle/Pedestrian Equestrian Trail	150			650	12	9,600
Bridges	1				15,000	15,000
Parking Lots				11,900 s.f.	1.50 s.f.	17,850
Turf & Irrigation	1.57 a.		4.75 a.	15.77 a.	15,000 a.	331,350
Native Grasses						
Trees	128	144	280	1,400	25	48,800
Naturalized Plantings			1.5 a.	8 a.	2,000	19,000
Amphitheatre			1			30,000
Interpretive facility						
Restrooms						
Lighting						
Miscellaneous Site Development						
Tot Lot						
Arboretum						
Total Cost Reach 3						\$879,636

Reach 4 Summerdale Road to Capitol Avenue
(South of Penitencia Creek Road)

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land		12.98		36.3		
Clearing & Grubbing		8.5 a.		32 a.	\$ 1,000	\$40,500
Grading		8.5 a.		32 a.	Lump Sum	130,680
Storm Drainage					Allow	20,000
Lakes				4 a.	Lump Sum	38,720
Bicycle Trail		1,000		2,950 l.f.	10	39,500
Pedestrian Trail		450		4,100	3	13,650
Equestrian Trail				825 l.f.	2	1,650
Bicycle/Pedestrian Trail		300			10	3,000
Pedestrian/Equestrian Trail		600		1,200	5	9,000
Bicycle/Pedestrian Equestrian Trail						
Bridges		1		2	15,000	45,000
Parking Lots				15,700 s.f.	1.50	23,550
Turf & Irrigation						
Native Grasses		8.5 a.		36 a.	600	26,700
Trees		257		708	25	24,125
Naturalized Plantings		2		5	600	4,200
Amphitheatre						
Interpretive facility				1		40,000
Restrooms				1		40,000
Lighting						
Miscellaneous Site Development						33,500
Tot Lot						
Arboretum				10 a.	5,000	50,000
Total Cost Reach 4						\$583,775

Magnitude of Development Cost
Penitencia Creek Park

Reach 5 Capitol Avenue to Jackson Road

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land	.3.53	13				
Clearing & Grubbing	3.5 a.	2 a.			\$ 1,000	\$ 5,500
Grading						
Storm Drainage						
Lakes						
Bicycle Trail						
Pedestrian Trail						
Equestrian Trail						
Bicycle/Pedestrian Trail		2,650			10	26,500
Pedestrian/Equestrian Trail						
Bicycle/Pedestrian/Equestrian Trail						
Bridges		1			15,000	15,000
Parking Lots						
Turf & Irrigation						
Native Grasses	3.53 a.	2 a.			600	3,318
Trees	75	261			25	8,400
Naturalized Plantings		2 a.			2,000	4,000
Amphitheatre						
Interpretive Facility						
Restrooms						
Lighting						
Miscellaneous Site Development					Allow	1,000
Tot Lot						
Arboretum						
Total Cost Reach 5						\$63,718

Reach 6 Jackson Road to King Road

	Private	SCVWD	City of San Jose	County Santa Clara	Unit Cost	Total
Acres of Land	758	20.54	6.44	16		
Clearing & Grubbing	4	3	1.5		\$ 1,000	\$ 8,500
Grading		20	5 a.	11 a.	Allow	116,160
Storm Drainage					Allow	28,800
Lakes				1.9		18,392
Bicycle Trail	825	2,000			10	28,250
Pedestrian Trail	800	2,100			3	8,700
Equestrian Trail						
Bicycle/Pedestrian Trail		1,900	650	2,350	10	49,000
Pedestrian/Equestrian Trail						
Bicycle/Pedestrian/Equestrian Trail						
Bridges			1	3	15,000	60,000
Parking Lots				9,000 s.f.	1.50	13,500
Turf & Irrigation			5 a.		15,000	75,000
Native Grasses	6	20	1.4	11	600	23,040
Trees	150	400	105	400	25	26,375
Naturalized Plantings	1	7		4	2,000	24,000
Amphitheatre						
Interpretive Facility						
Restrooms			1			40,000
Lighting					Allow	6,000
Miscellaneous Site Development					Allow	25,000
Tot Lot			1		Allow	15,000
Arboretum						
Total Cost Reach 6						\$565,717

Magnitude of Development Cost
Penitencia Creek Park

Reach 7 King Road to Coyote Creek

	Private	SCVWD	City of San Jose	County of Santa Clara	Unit Cost	Total
Acres of Land						
Clearing & Grubbing						
Grading						
Storm Drainage						
Lakes						
Bicycle Trail						
Pedestrian Trail						
Equestrian Trail						
Bicycle/Pedestrian Trail	3,600				\$ 10	\$36,000
Pedestrian/Equestrian Trail						
Bicycle/Pedestrian/ Equestrian Trail						
Bridges	1	1			15,000	15,000
Parking Lots						
Turf & Irrigation						
Native Grasses						
Trees		50			25	1,250
Naturalized Plantings						
Amphitheatre						
Interpretive Facility						
Restrooms						
Lighting						
Miscellaneous Site Development						1,000
Tot Lot						
Arboretum						
Total Cost Reach 7						\$53,250

Summary Recommendations

Penitencia Creek is an irreplaceable natural resource contributing to the enrichment of the urban environment. Although its beauty and significance to the region has been recognized for over 100 years, it has become critical, due to the rapid development of San Jose's east side, to preserve this creek in its natural state. This report has endeavored to illustrate alternatives for ecological and aesthetic enhancement of the creek and its immediate environment.

A. Penitencia Creek Park is a potential link in a County and community open space corridor linking regional park facilities. It is a significant natural asset and should be sensitively developed to begin capturing intrinsic values associated with natural water courses.

B. Recognizing the importance and influence of existing and future development adjacent to the Creek, a comprehensive program of landscape enhancement and environmental integration should be initiated. Particular emphasis should be given to zoning requirements for future residential developments, industrial developments in the King and Berryessa Road areas, and future roadway construction in areas bordering the park. Existing conditions present a variety of situations which require evaluation and recommendations to improve the creek experience.

C. The east percolation ponds, between Noble Avenue and Piedmont Road,

offer creative opportunities for water-related activities. The optimum potential of this recreation resource should be realized in providing for maximum usability, ease of accessibility, variety of spaces, and recreation facilities. The widespread demand and popularity of water resources within Santa Clara County is well evidenced by park and recreation statistics.

D. An important consideration for design proposals related to the Creek must include references to the bisecting freeway and adjacent roadways. The viewing experience from roadways should be one of the goals in developing landscape treatment for the park. Continuing a mutually beneficial relationship, various agencies and the County of Santa Clara should endeavor to develop programs for roadway and creek beautification. Working together with continuing communication and cooperation, these agencies should stimulate and provide alternatives for the visual enhancement of the community's image.

All future roadway improvements along the creek should include provisions for pathways so that the parks influence may begin to reach into the surrounding neighborhoods. It is critical that all future bridge improvements bisecting the creek and park include provisions for pedestrian, bicycle, and equestrian underpasses.

E. Essential to the validity and merit of this study is a continuing citizen involvement, and staff review of flood

control projects relating to the Penitencia Creek system. By being aware of existing conditions and the natural processes of the Creek system, the citizens and Parks and Recreation staff can continue to monitor their goals and objectives.

F. An important consideration throughout this study has been the retention of the Creek channel's natural environmental characteristics as well as the need for flood control measures. These measures are recognized as essential to flood water containment and water transportation. The park and related flood control improvements represent a major economic investment. The level of protection afforded by their inherent design should be determined according to the needs and desires of the community. The percolation pond areas have been engineered and designed for optimum water conservation and groundwater recharge. It is recommended that an assessment of groundwater recharge capacity be made prior to alteration of existing percolation facilities. Consideration should be given to the use of park lands as potential sites for construction of new facilities as needed to maintain existing groundwater recharge capacity and as water becomes available. The predominant source of water for the east side of Santa Clara Valley and Penitencia Creek is imported water.

G. A grounds maintenance program is a necessary responsibility accompanying new park developments; the initial three years of plant establishment are critical,

and it is recommended that sufficient funds be allocated by maintenance departments in order to accommodate this critical period. Other maintenance factors such as vehicle access routes, increased organic debris and a policing program should be formulated and included as a necessary maintenance item.

H. Participation by scientific and educational groups should be continued as an aid for monitoring rehabilitation progress and evaluating project effectiveness.

I. It is essential that the Santa Clara County Parks and Recreation Department lead the way in developing joint use agreements with the various agencies whose lands have been incorporated within the park. Specific guidelines for future development, goals for financial participation, and time-frame requirements should be compiled. The coordination of development as well as the analysis of changing user needs and desires are critical.

Appendix

Inventory Summary of Public and Private Recreation Facilities - Existing & Proposed

EXISTING OUTDOOR

86	Basketball Courts
53	Volleyball Courts
30	Tennis Courts
17	Baseball Fields
16	Softball Fields
14	Playgrounds
8	Little League Baseball Fields
8	Tetherball Courts
7	Handball Courts
6	Swimming Pools
6	Tracks
6	Badminton Courts
6	Soccer Fields
3	Golf-Putting Greens
2	18 Hole Golf Courses
2	Driving Ranges (Golf)
1	Visitor Centers
2	Tot Lots

Equestrian Trails (6 miles)
Hiking Trails (16 miles)
Bicycle Paths (7 miles)
Group Picnic (150 person facility)

INDOOR

36	Badminton Courts
22	Volleyball Courts
18	Basketball Courts
3	Gymnasiums
3	Dance Studios
3	Wrestling Rooms
3	Men's Locker Room
3	Women's Locker Rooms
2	Libraries
2	Golf "Pro" Shop
2	Restaurants
1	Swimming Pool
1	Weight Room
1	Planetarium
1	Theater
1	Community Center
1	Chinese Cultural Center
1	Youth Science Institute

PROPOSED

10	Tennis Courts
4	Swimming Pools
2	Recreational Center Buildings
1	Soccer Field
1	Track

Handball Courts
Hiking
Picnicking
Environmental Observation Area
Botanical Walk

References

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